HART COUNTY ROAD WIDENING

HART COUNTY

ABBREVIATIONS

AC	ASBESTOS CLAY	IP	IRON PIN
ARV	AIR RELEASE VALVE	JB	JUNCTION BOX
ASP	ASPHALT	LF	LINEAR FEET
BOC	BACK OF CURB	MAX	MAXIMUM
CIC	CURB INLET	MIN	MINIMUM
	FRAME & GRATE	N.T.S.	NOT TO SCALE
CMP	CORRUGATED METAL PIPE	PP	POWER POLE
		R/W	RIGHT-OF-WAY
CPP	CORRUGATED PLASTIC PIPE	R/W MRK	RIGHT-OF-WAY MARKER
		RCP	REINFORCED CONCRETE PIPE
DIP	DUCTILE IRON PIPE		
DIST	DISTANCE	RR	RAILROAD
ELEV	ELEVATION	SMH	SEWER MANHOLE
EOP	EDGE OF PAVEMENT	STA	STATION
FF	FINISHED FLOOR	SW	SIDEWALK
FG	FINISHED GRADE	TEM	TEMPORARY
FOC	FACE OF CURB		BENCHMARK
GICI	GRATE INLET	TYP	TYPICAL
	CATCH BASIN	WCB	WEIR INLET
INV	INVERT		CATCH BASIN

LEGEND — SITE LEGEND

	EXISTING	PROPOSED
SPOT GRADE	X 000.00	X 000.00
POWER POLE		
BENCHMARK		
GUY WIRE		
IRON PIN	IP	
CATCH BASIN		
JUNCTION BOX		
STORM DRAINAGE FLOW		
TRAFFIC FLOW		
STONE CHECK DAM		
RIP RAP INLET/OUTLET PROTECTION PAD		
MINOR CONTOUR		
MAJOR CONTOUR		
EDGE OF PAVEMENT		
CURB AND GUTTER		
PROPERTY LINE		
RIGHT-OF-WAY		
EASEMENT		
SETBACK		
SILT FENCE		SF
FENCE	X	X
STORM DRAIN	SD	
DISTURBED AREA BOUNDARY		
OVERHEAD POWER	OHP	
UNDERGROUND POWER	UGP	
OVERHEAD TELEPHONE	OT	
UNDERGROUND TELEPHONE	UT	
WATER METERS		
HYDRANTS		
VALVES		
ARV's	A	A
BLOWOFFS		
WATERLINE	W	

Legend and Symbols:

Note

- SF — Silt Fencing
- Disturbed Area Stabilization (Temporary Vegetation)
- Disturbed Area Stabilization (Permanent Vegetation)
- Vegetative Waterway

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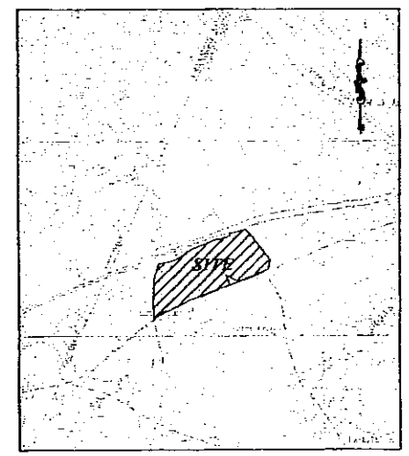
VICINITY MAP - 1" = 2000'



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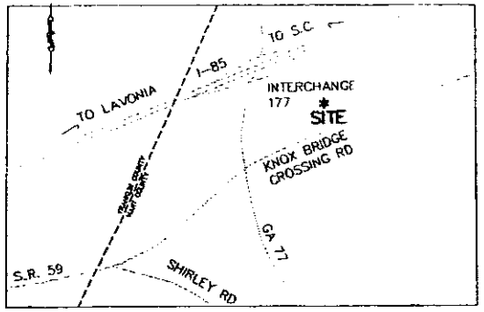
C	8/5/08	RE-RELEASE FOR D.O.T. REVIEW	AMTW
D	8/13/08	RELEASE FOR HART COUNTY REVIEW	AMTW

CLIENT: Hart County
PROJECT: Hart County Road Widening
SHEET TITLE: COVER

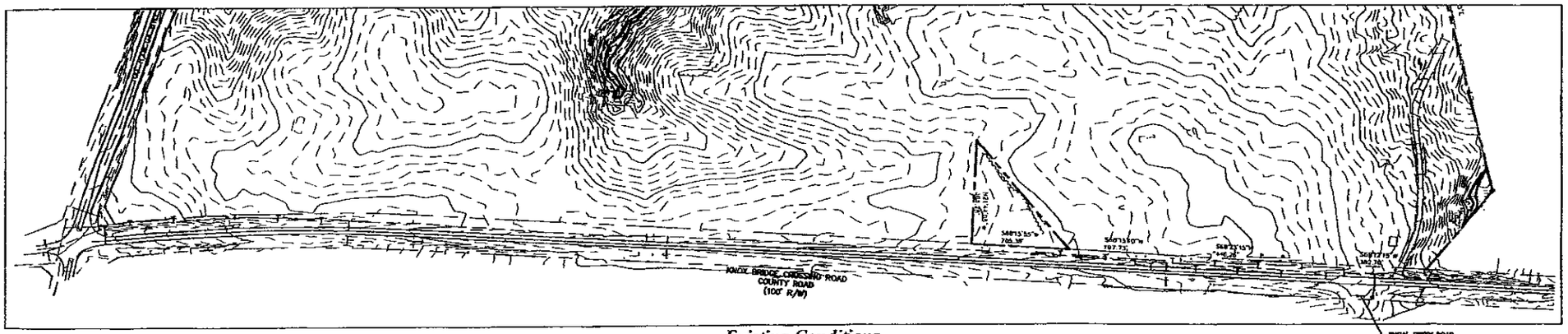
COVER
FILE NO. 405.13.1



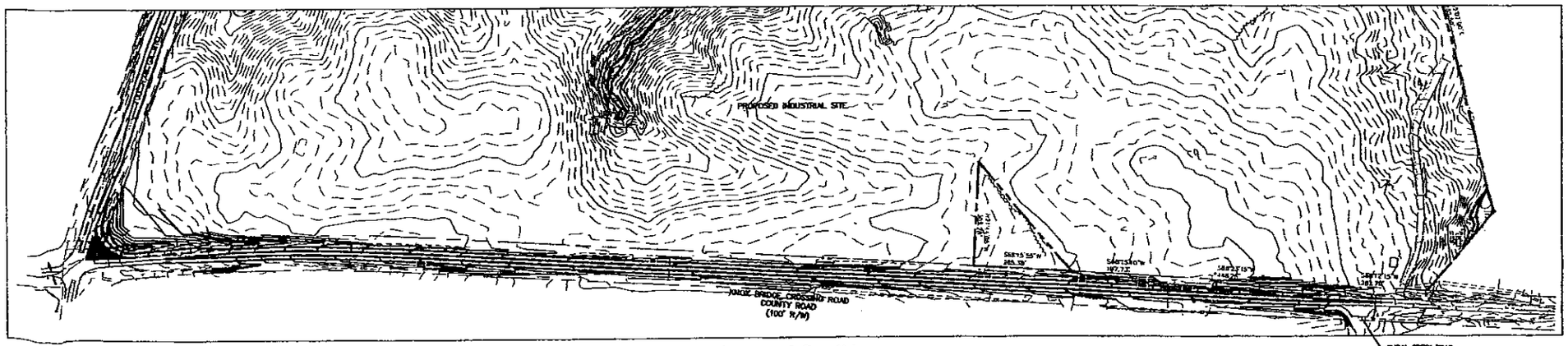
LOCATION MAP - NOT TO SCALE

3 DAYS BEFORE DIGGING IN GEORGIA
CALL 1-800-282-7411

SCALE: 1" = 310'



Existing Conditions



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B	7/19/04	REVISED PER DOT	AJCW
C	10/4/04	RELEASE FOR DOT REVIEW	AJCW
D	8/12/05	RELEASE FOR HART COUNTY REVIEW	AJCW

CLIENT: Hart County

PROJECT: Hart County Road Widening

SHEET TITLE: Overall Lane Layout

SHEET NO. 1 OF 17

FILE NO. 405.13.1

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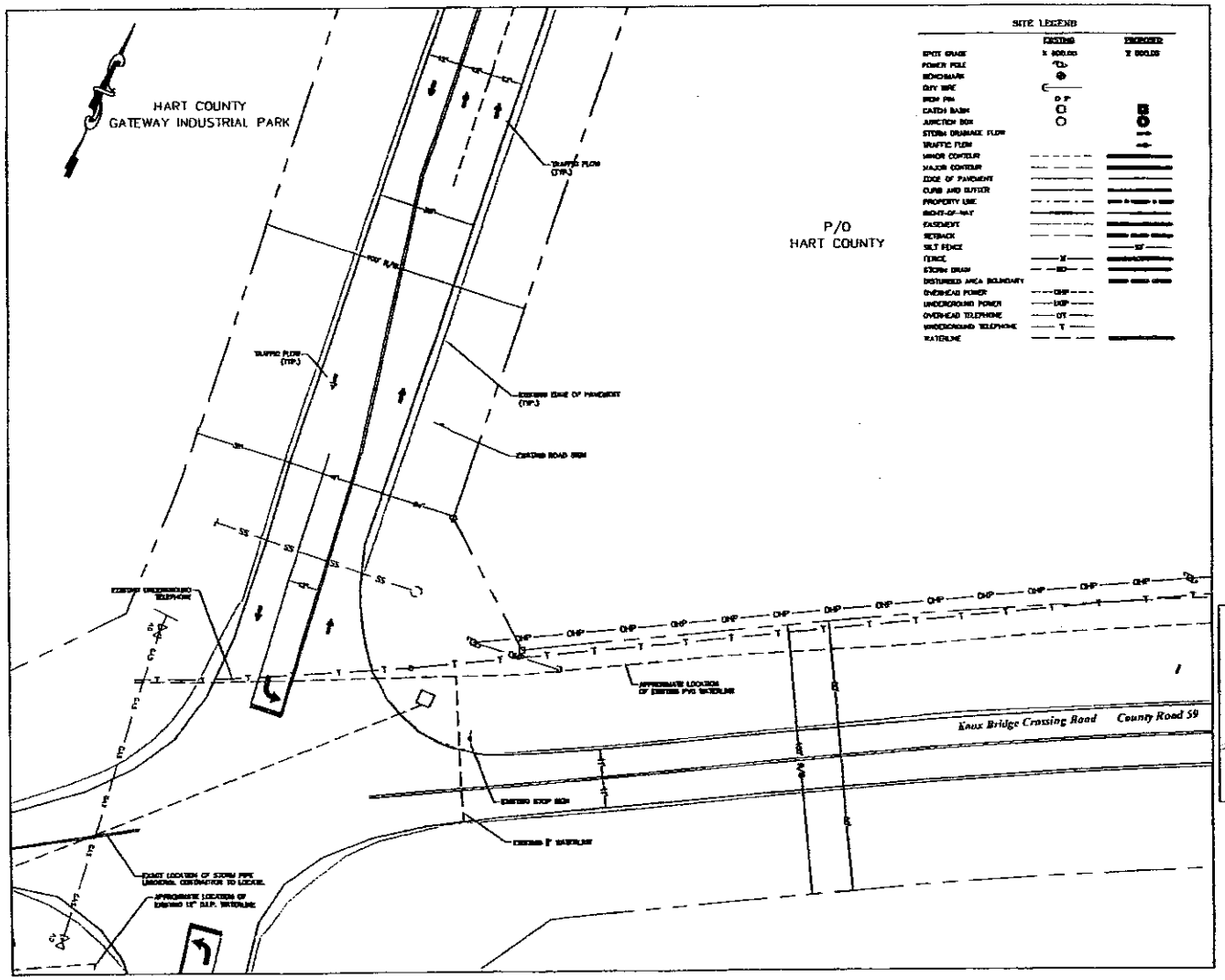
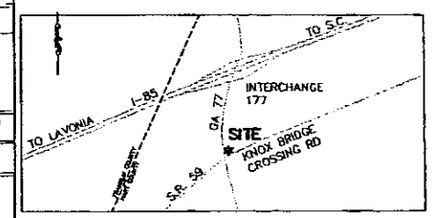
SCALE: 1" = 50'



SITE LEGEND

	EXISTING	PROPOSED
SPOT GRADE	X 800.00	X 800.00
POWER POLE		
BENCHMARK		
GUY WIRE		
IRON PIN	D.P.	
CATCH BASIN		
JUNCTION BOX		
STORM DRAINAGE FLOW		
TRAFFIC FLOW		
MINOR CONTOUR		
MAJOR CONTOUR		
EDGE OF PAVEMENT		
CURB AND GUTTER		
PROPERTY LINE		
RIGHT-OF-WAY		
EASEMENT		
SETBACK		
SILT FENCE		SF
FENCE	X	
STORM DRAIN	RD	
DISTURBED AREA BOUNDARY		
OVERHEAD POWER	OHP	
UNDERGROUND POWER	UGP	
OVERHEAD TELEPHONE	OT	
UNDERGROUND TELEPHONE	T	
WATERLINE		



LOCATION MAP - NOT TO SCALE

Existing Conditions

GENERAL NOTES:

1. ALL PAVEMENT MARKINGS INSTALLED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE THERMOPLASTIC MATERIAL.
2. LANE LINES SHOULD BE 5" (WHITE)
3. STOP LINES SHOULD BE 24" (WHITE)
4. CENTER LINES SHOULD BE 5" DOUBLE YELLOW.
5. DECELERATION LANES AND LEFT TURN LANES SHOULD HAVE TURN ARROWS (TP 2) SPACED EVERY 100'.
6. THIS SITE HAS APPROXIMATELY 1200' OF ROAD FRONTAGE ON GA. HWY. 77
7. INTERSECTION IS LOCATED AT MILE POST @20.06

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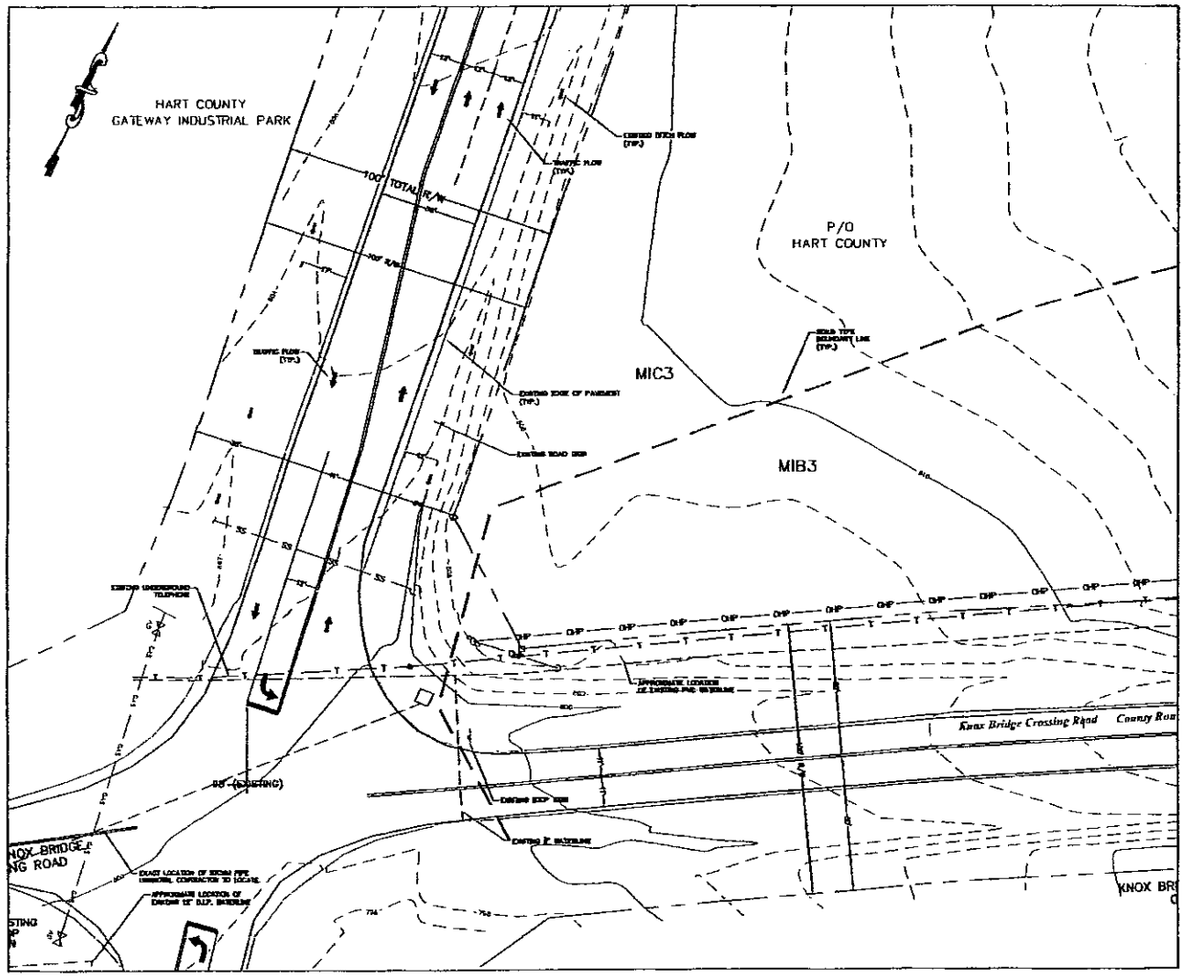
A	7/5/06	RE-DRAW FOR REVIEW	AJPW
B	7/11/06	ADJUSTED PER DOT	AJPW
C	8/1/06	RELEASED FOR DOT REVIEW	AJPW
D	8/21/06	RELEASED FOR HART COUNTY REVIEW	AJPW

CLIENT: Hart County
PROJECT: Hart County Road Widening
SHEET TITLE: Existing Intersection Layout

SHEET NO. 2 OF 17
FILE NO. 405.13.1

3 DAYS BEFORE DIGGING ON GEORGIA
CALL 1-800-282-7411

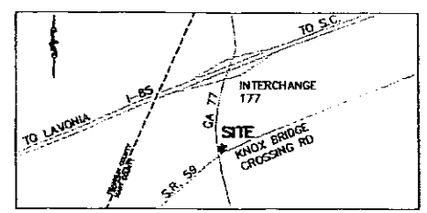
SCALE: 1" = 50'



Existing Conditions

NOTES:

1. ALL PAVEMENT MARKINGS INSTALLED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE THERMOPLASTIC MATERIAL.
2. LANE LINES SHOULD BE 5" (WHITE)
3. STOP LINES SHOULD BE 24" (WHITE)
4. CENTER LINES SHOULD BE 5" DOUBLE YELLOW
5. DECELERATION LANES AND LEFT TURN LANES SHOULD HAVE TURN ARROWS (TP 2) SPACED EVERY 100'.
6. THIS SITE HAS APPROXIMATELY 1200' OF ROAD FRONTAGE ON SR. HWY. 77
7. INTERSECTION IS LOCATED AT MILE POST #20.00



LOCATION MAP - NOT TO SCALE

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A	10/04	RELEASE FOR REVIEW	AMW
B	10/04	REVISED PER DOT	AMW
C	2/05	RELEASED FOR DOT REVIEW	AMW
D	6/12/05	RELEASED FOR HART COUNTY REVIEW	AMW

CLIENT: Hart County
PROJECT: Hart County Road Widening
SHEET TITLE: Existing Intersection Grades

SHEET NO. 3 OF 17
FILE NO. 405.13.1

3 DAYS BEFORE DIGGING IN GEORGIA
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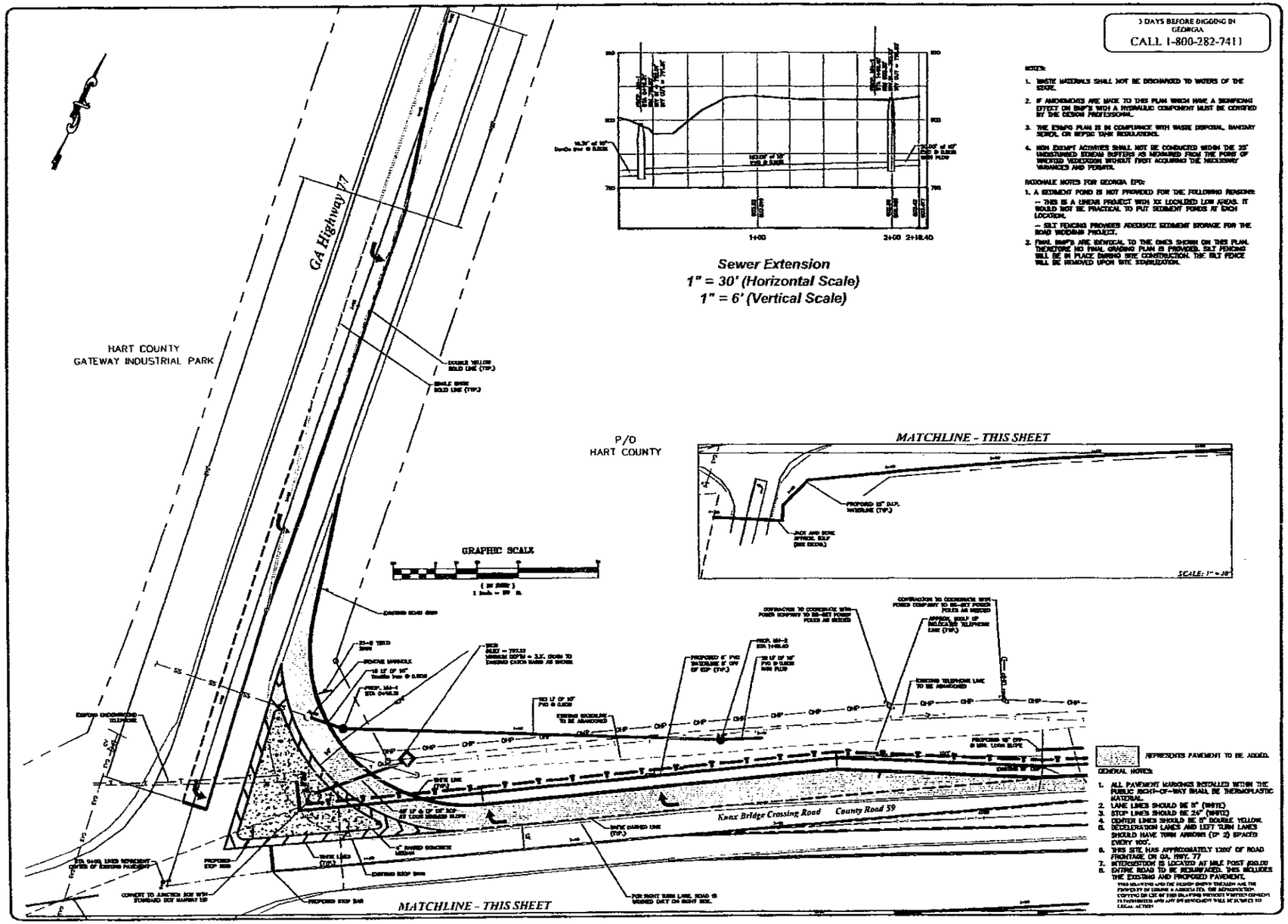

Sewer Extension
1" = 30' (Horizontal Scale)
1" = 6' (Vertical Scale)

NOTES:

1. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE.
2. IF AMENDMENTS ARE MADE TO THIS PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
3. THE ESAPC PLAN IS IN COMPLIANCE WITH WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC TANK REGULATIONS.
4. NON EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25' UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRITTEN VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

RATIONALE NOTES FOR GEORGIA EPD:

1. A SEDIMENT POND IS NOT PROVIDED FOR THE FOLLOWING REASONS:
   - THIS IS A LINEAR PROJECT WITH XX LOCALIZED LOW AREAS. IT WOULD NOT BE PRACTICAL TO PUT SEDIMENT PONDS AT EACH LOCATION.
   - SILT FENCING PROVIDES ADEQUATE SEDIMENT STORAGE FOR THE ROAD WIDENING PROJECT.
2. FINAL BMP'S ARE IDENTICAL TO THE ONES SHOWN ON THIS PLAN. THEREFORE NO FINAL GRADING PLAN IS PROVIDED. SILT FENCING WILL BE IN PLACE DURING SITE CONSTRUCTION. THE SILT FENCE WILL BE REMOVED UPON SITE STABILIZATION.

GENERAL NOTES:

1. ALL PAVEMENT MARKINGS INSTALLED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE THERMOPLASTIC MATERIAL.
2. LANE LINES SHOULD BE 5" (WHITE)
3. STOP LINES SHOULD BE 24" (WHITE)
4. CENTER LINES SHOULD BE 5" DOUBLE YELLOW.
5. DECELERATION LANES AND LEFT TURN LANES SHOULD HAVE TURN ARROWS (TP 2) SPACED EVERY 100'.
6. THIS SITE HAS APPROXIMATELY 1200' OF ROAD FRONTAGE ON GA. HWY. 77
7. INTERSECTION IS LOCATED AT MILE POST #20.00
8. ENTIRE ROAD TO BE RESURFACED. THIS INCLUDES THE EXISTING AND PROPOSED PAVEMENT.

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2	11/14/08	REVISED PER DEPT	AJPW
3	01/15/09	LDR/BMP/ESAPC REVIEW	AJPW
4	02/11/09	REVISED PER HART COUNTY REVIEW	AJPW
5	02/19/09		
6	02/19/09		

CLIENT: Hart County
PROJECT: Hart County Road Widening
SHEET TITLE: Proposed Intersection Layout/Utilities Plan

SHEET NO. 4 OF 17
FILE NO. 405.13.1

3 DAYS BEFORE DIGGING IN GEORGIA
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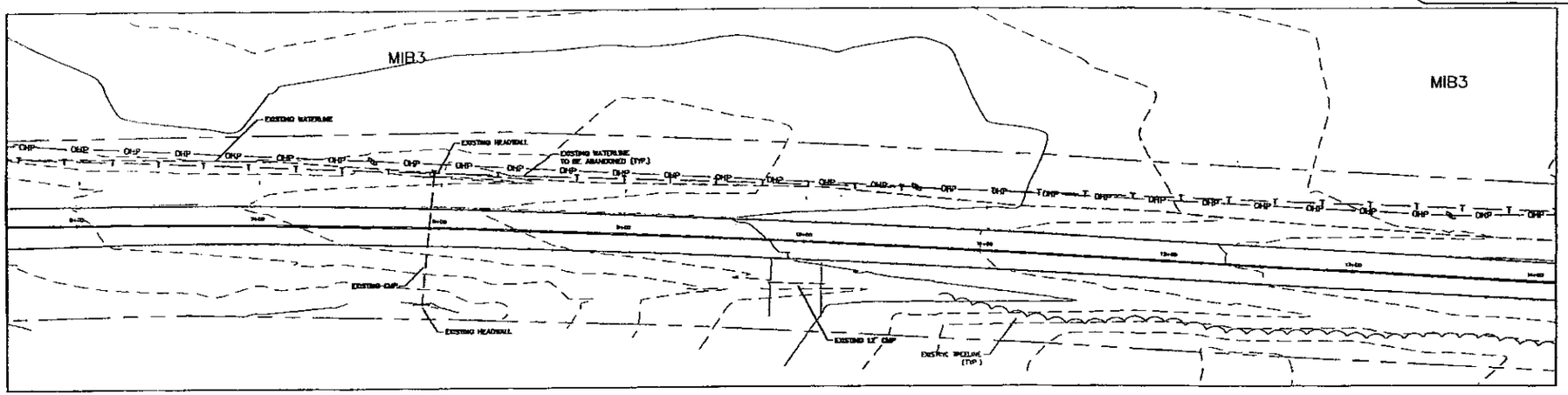


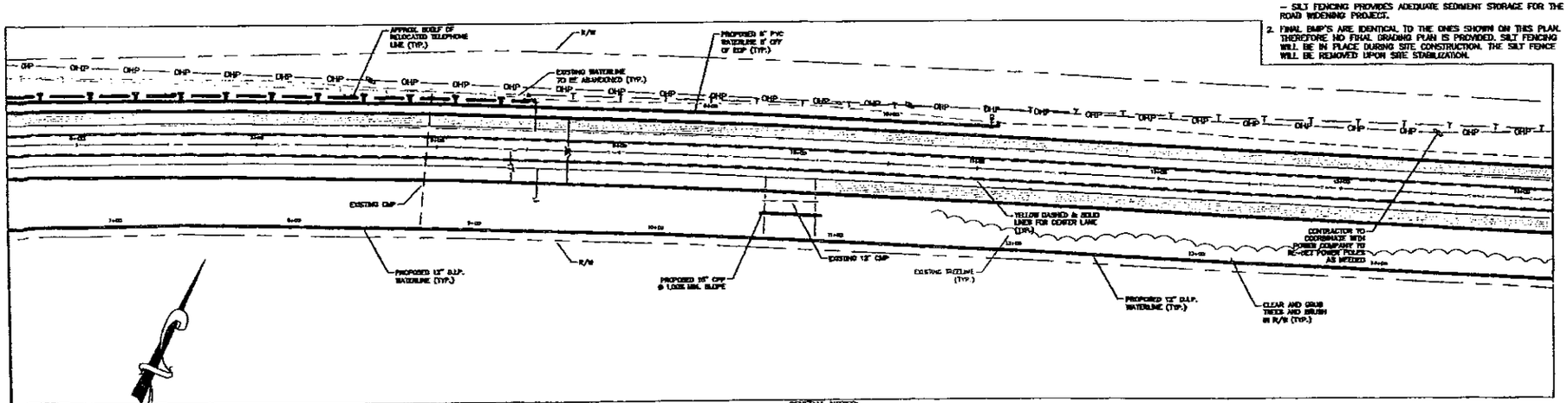
Existing Conditions

NOTES:

1. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE.
2. IF AMENDMENTS ARE MADE TO THIS PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
3. THE ESAPC PLAN IS IN COMPLIANCE WITH WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC TANK REGULATIONS.
4. NON EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25' UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

RATIONALE NOTES FOR GEORGIA EPD:

1. A SEDIMENT POND IS NOT PROVIDED FOR THE FOLLOWING REASONS:
   - THIS IS A LINEAR PROJECT WITH XX LOCALIZED LOW AREAS. IT WOULD NOT BE PRACTICAL TO PUT SEDIMENT PONDS AT EACH LOCATION.
   - SILT FENCING PROVIDES ADEQUATE SEDIMENT STORAGE FOR THE ROAD WIDENING PROJECT.
2. FINAL BMP'S ARE IDENTICAL TO THE ONES SHOWN ON THIS PLAN. THEREFORE NO FINAL GRADING PLAN IS PROVIDED. SILT FENCING WILL BE IN PLACE DURING SITE CONSTRUCTION. THE SILT FENCE WILL BE REMOVED UPON SITE STABILIZATION.



Proposed Conditions

GENERAL NOTES:

1. ALL PAVEMENT MARKINGS INSTALLED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE THERMOPLASTIC MATERIAL.
2. LANE LINES SHOULD BE 5" (WHITE)
3. STOP LINES SHOULD BE 24" (WHITE)
4. CENTER LINES SHOULD BE 5" DOUBLE YELLOW.
5. DECELERATION LANES AND LEFT TURN LANES SHOULD HAVE TURN ARROWS (TYP 2) SPACED EVERY 100'.
6. ENTIRE ROAD TO BE RESURFACED. THIS INCLUDES THE EXISTING AND PROPOSED PAVEMENT.

SCALE: 1" = 65'

REPRESENTS PAVEMENT TO BE ADDED.

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B	7/15/08	REVISED PER DOT	AWTW
C	8/1/08	RELEASE FOR DOT REVIEW	AWTW
D	8/13/08	RELEASE FOR HART COUNTY REVIEW	AWTW

CLIENT: Hart County
PROJECT: Hart County Road Widening
SHEET TITLE: Existing Conditions / Layout / Utilities Plan (1)

SHEET NO. 5 OF 17
FILE NO. 405.13.1

3 DAYS BEFORE DIGGING IN GEORGIA
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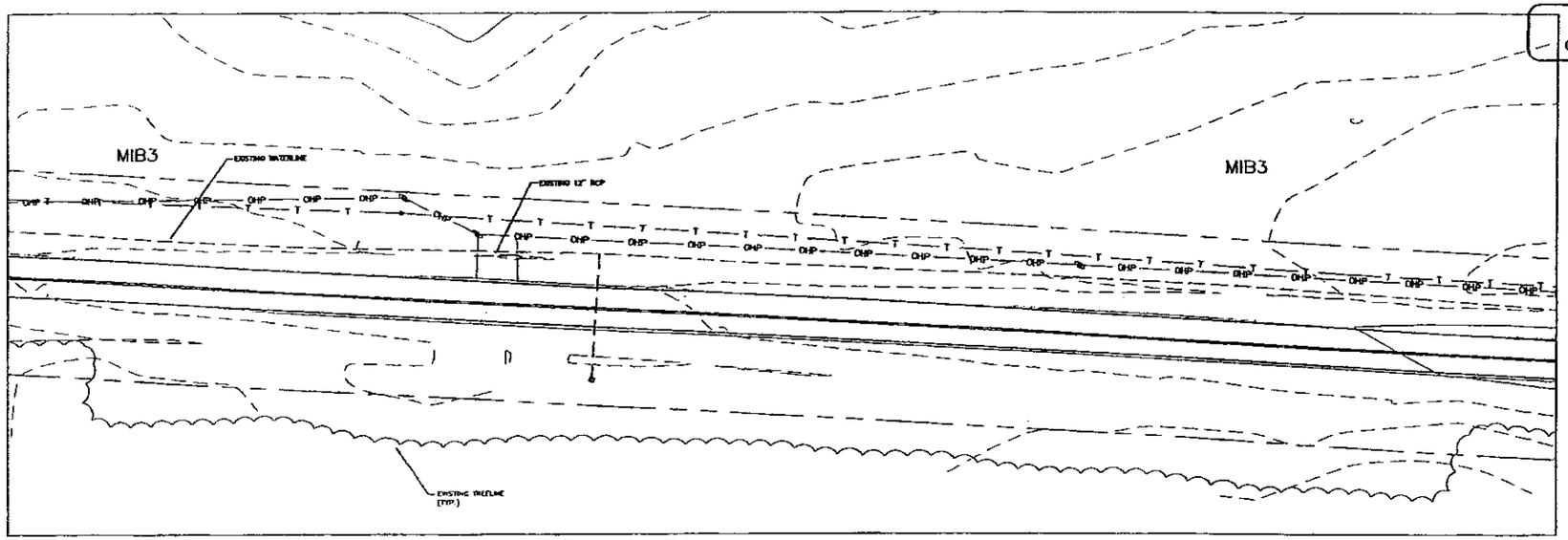
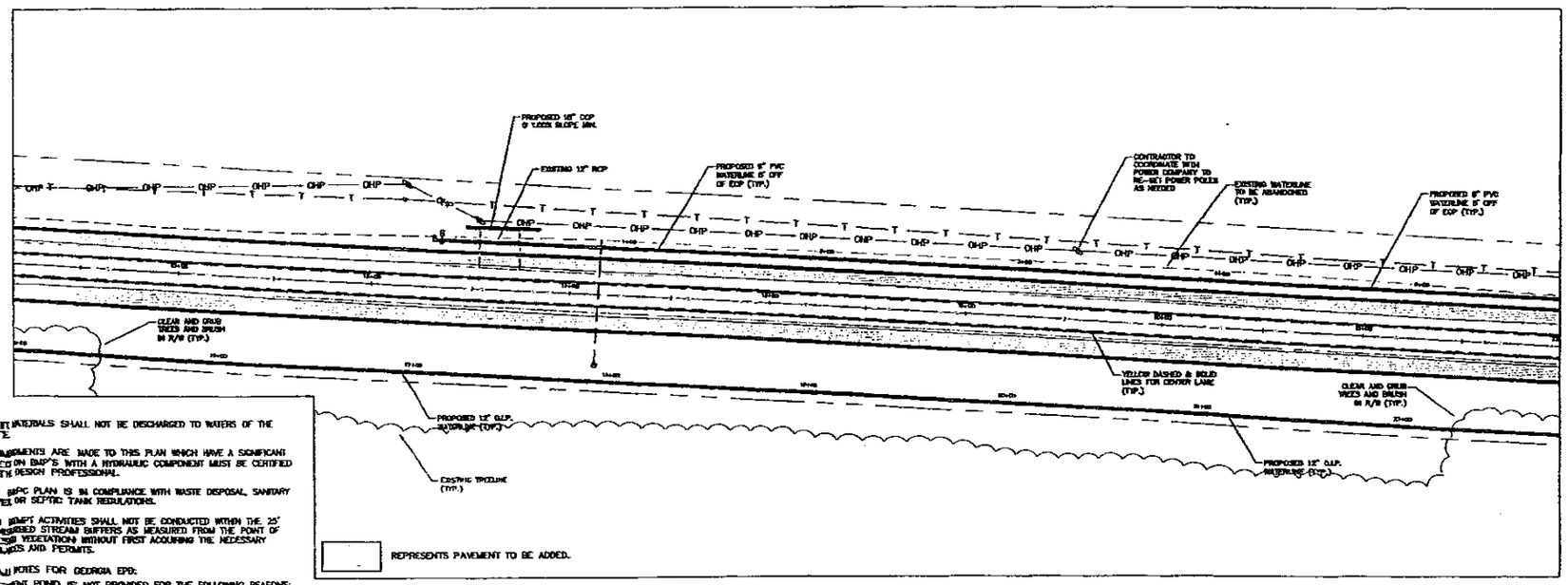


Existing Conditions



Proposed Conditions

NOTES:

1. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE.
2. IF AMENDMENTS ARE MADE TO THIS PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
3. THE NPC PLAN IS IN COMPLIANCE WITH WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC TANK REGULATIONS.
4. NON NPDES ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25' UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTLE VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

RATIONALE NOTES FOR GEORGIA EPD:

1. A SEDIMENT POND IS NOT PROVIDED FOR THE FOLLOWING REASONS:
   - THIS IS A LINEAR PROJECT WITH XX LOCALIZED LOW AREAS. IT WOULD NOT BE PRACTICAL TO PUT SEDIMENT PONDS AT EACH LOCATION.
   - SILT FENCING PROVIDES ADEQUATE SEDIMENT STORAGE FOR THE ROADWIDENING PROJECT.
2. FINAL BMP'S ARE IDENTICAL TO THE ONES SHOWN ON THIS PLAN. THEREFORE, NO FINAL GRADING PLAN IS PROVIDED. SILT FENCING WILL BE IN PLACE DURING SITE CONSTRUCTION. THE SILT FENCE WILL BE REMOVED UPON SITE STABILIZATION.

GENERAL NOTES:

1. ALL PAVEMENT MARKINGS INSTALLED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE THERMOPLASTIC MATERIAL.
2. LANE LINES SHOULD BE 6" (WHITE)
3. STOP LINES SHOULD BE 24" (WHITE)
4. CENTER LINES SHOULD BE 6" DOUBLE YELLOW.
5. DECELERATION LANES AND LEFT TURN LANES SHOULD HAVE TURN ARROWS (TP 2) SPACED EVERY 100'.
8. ENTIRE ROAD TO BE RESURFACED. THIS INCLUDES THE EXISTING AND PROPOSED PAVEMENT.

SCALE: 1" = 65'

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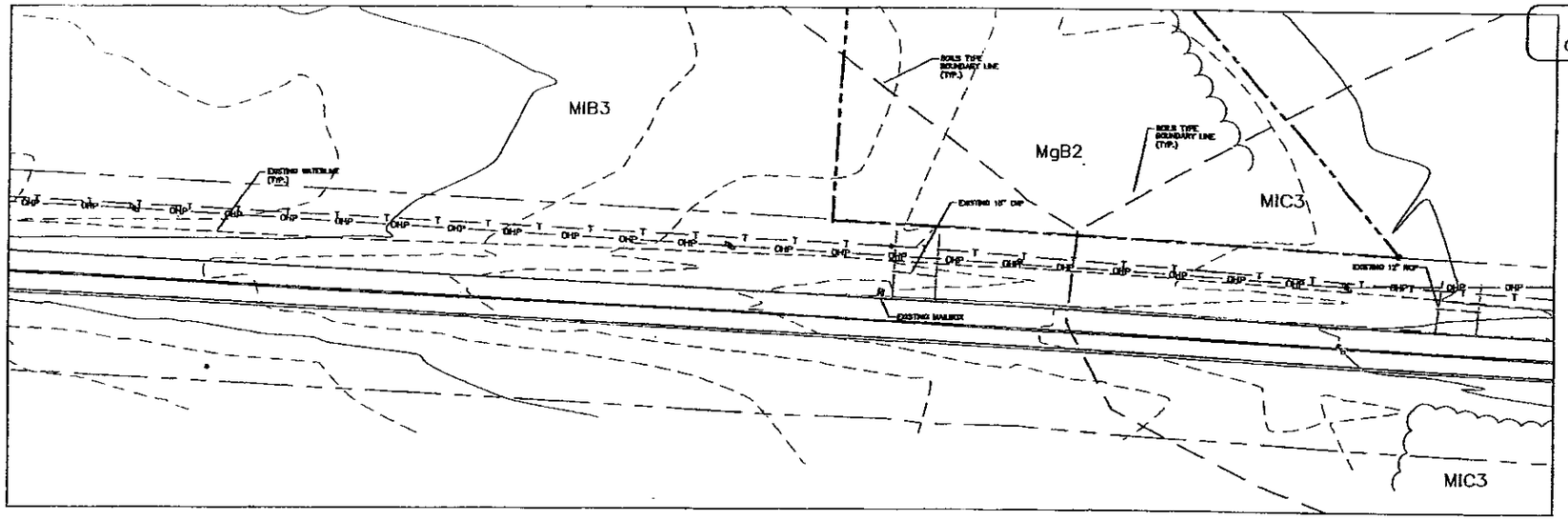
C	8/13/08	RELEASE FOR DOT REVIEW	AWTW
D	8/13/08	RELEASE FOR HART COUNTY REVIEW	AWTW

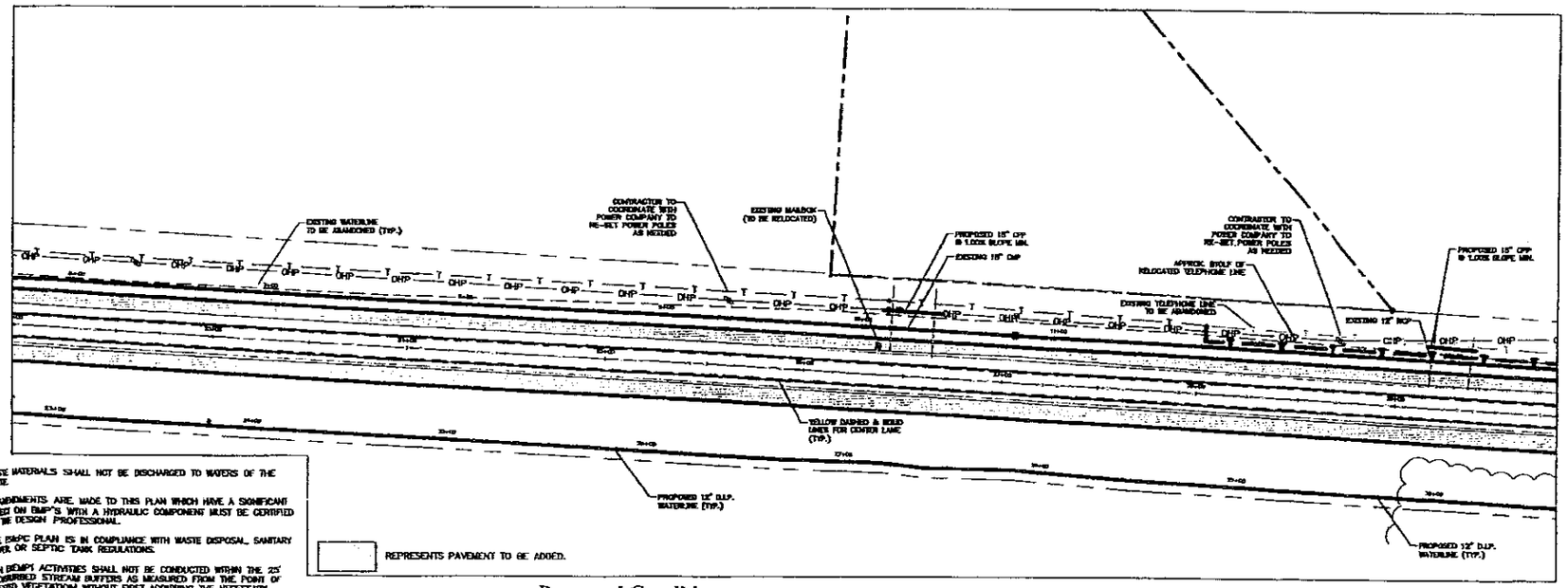
CLIENT: Hart County
PROJECT: Hart County Road Widening
SHEET TITLE: Existing Conditions / Layout / Utilities Plan (2)

SHEET NO. 6 OF 17
FILE NO. 405.13.1

3 DAYS BEFORE DIGGING IN GEORGIA
CALL 1-800-282-7411



Existing Conditions



Proposed Conditions

NOTES:

1. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE.
2. IF AMENDMENTS ARE MADE TO THIS PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
3. THE E&SPC PLAN IS IN COMPLIANCE WITH WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC TANK REGULATIONS.
4. NON EROSION ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25' UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

RATIONALE NOTES FOR GEORGIA EPD:

1. A SEDIMENT POND IS NOT PROVIDED FOR THE FOLLOWING REASONS:
   - THIS IS A LINEAR PROJECT WITH 30X LOCALIZED LOW AREAS. IT WOULD NOT BE PRACTICAL TO PUT SEDIMENT PONDS AT EACH LOCATION.
   - SILT FENCING PROVIDES ADEQUATE SEDIMENT STORAGE FOR THE ROAD WIDENING PROJECT.
2. FINAL BMP'S ARE IDENTICAL TO THE ONES SHOWN ON THIS PLAN. THEREFORE NO FINAL GRADING PLAN IS PROVIDED. SILT FENCING WILL BE IN PLACE DURING SITE CONSTRUCTION. THE SILT FENCE WILL BE REMOVED UPON SITE STABILIZATION.

GENERAL NOTES:

1. ALL PAVEMENT MARKINGS INSTALLED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE THERMOPLASTIC MATERIAL.
2. LANE LINES SHOULD BE 5" (WHITE)
3. STOP LINES SHOULD BE 24" (WHITE)
4. CENTER LINES SHOULD BE 5" DOUBLE YELLOW.
5. DECELERATION LANES AND LEFT TURN LANES SHOULD HAVE TURN ARROWS (TIP 2) SPACED EVERY 100'.
6. ENTIRE ROAD TO BE RESURFACED. THIS INCLUDES THE EXISTING AND PROPOSED PAVEMENT.

SCALE: 1" = 65'

THIS DRAWING AND THE DESIGN SHOWN THEREON ARE THE PROPERTY OF GOLDIE & ASSOCIATES. THE REPRODUCTION, CONTENT OR USE OF THIS DRAWING WITHOUT WRITTEN CONSENT IS PROHIBITED AND ANY INFRINGEMENT WILL BE SUBJECT TO LEGAL ACTION.

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CONSULTING ENGINEERS
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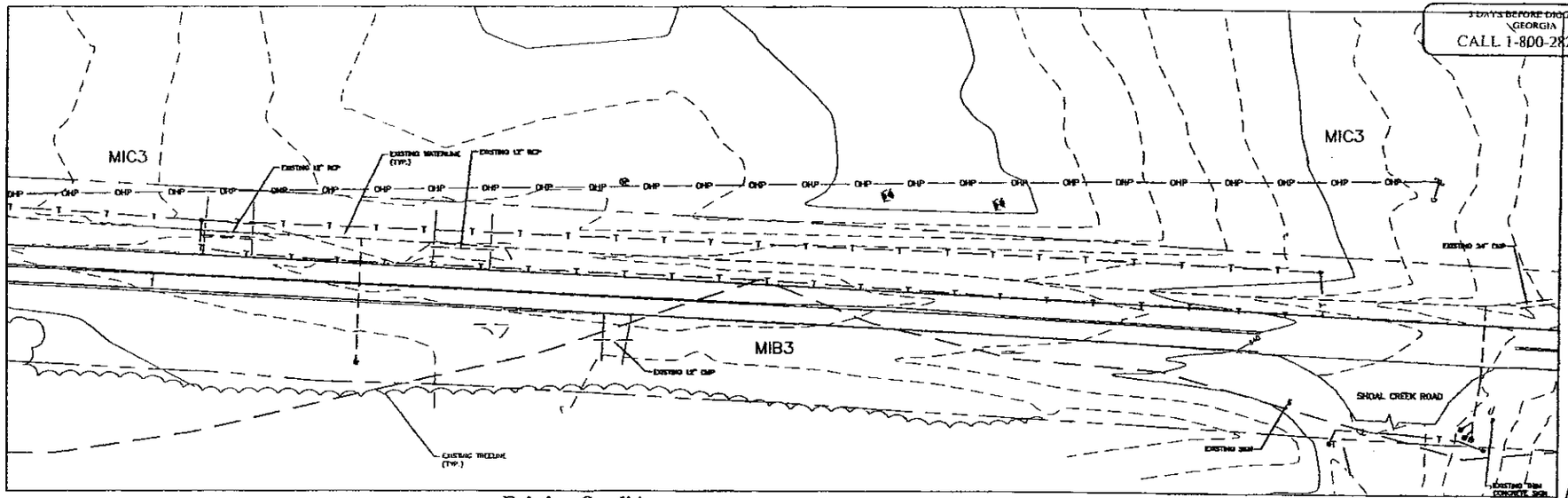
ENGINEER'S STAMP

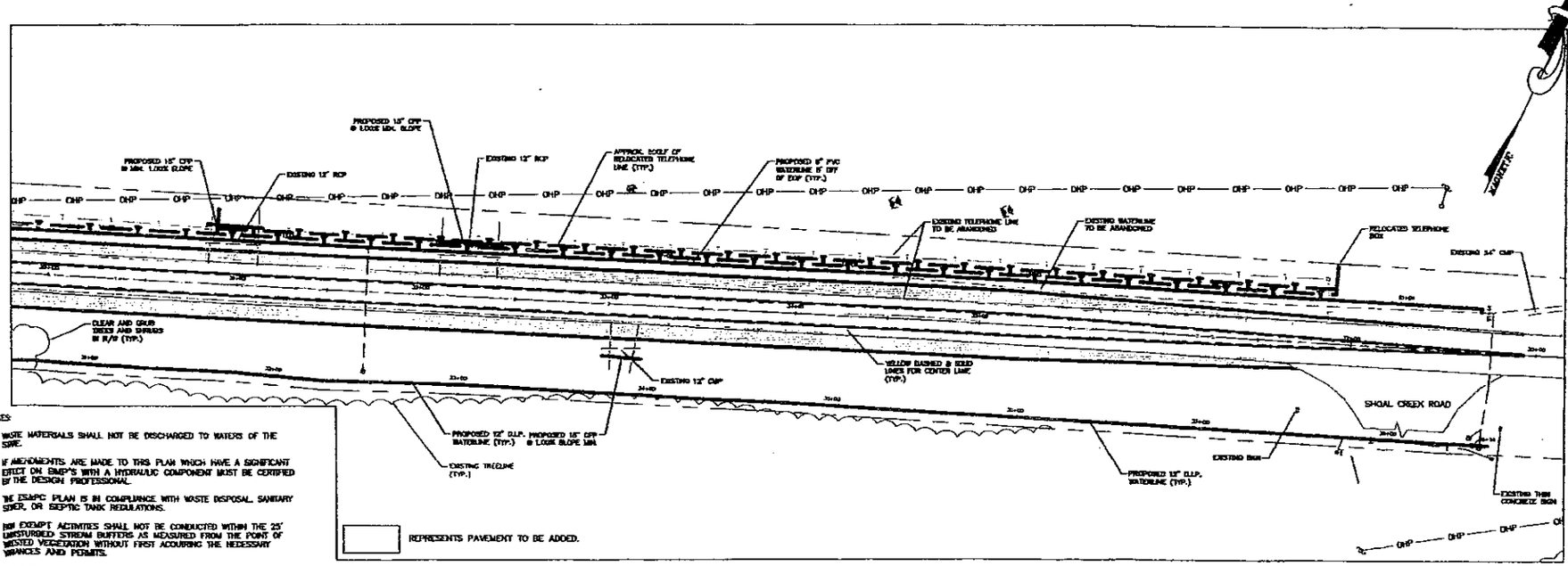
NO.	DATE	DESCRIPTION	BY:
A	7/2/08	RELEASE FOR REVIEW	AMTW
B	7/15/08	REVISED PER DOT	AMTW
C	8/28/08	RELEASE FOR DOT REVIEW	AMTW
D	8/13/09	RELEASE FOR HART COUNTY REVIEW	AMTW

CLIENT: Hart County
PROJECT: Hart County Road Widening
SHEET TITLE: Existing Conditions / Layout / Utilities Plan (3)

SHEET NO. 7 OF 17
FILE NO. 405.13.1



Existing Conditions



Proposed Conditions

NOTES:

1. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE.
2. IF AMENDMENTS ARE MADE TO THIS PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
3. THE ESAPC PLAN IS IN COMPLIANCE WITH WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC TANK REGULATIONS.
4. NON EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25' UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

RATIONALE NOTES FOR GEORGIA EPD:

1. A SEDIMENT POND IS NOT PROVIDED FOR THE FOLLOWING REASONS:
   - THIS IS A LINEAR PROJECT WITH 30 LOCALIZED LOW AREAS. IT WOULD NOT BE PRACTICAL TO PUT SEDIMENT PONDS AT EACH LOCATION.
   - SILT FENCING PROVIDES ADEQUATE SEDIMENT STORAGE FOR THE ROAD WIDENING PROJECT.
2. THE BMP'S ARE IDENTICAL TO THE ONES SHOWN ON THIS PLAN. THEREFORE, NO FINAL GRADING PLAN IS PROVIDED. SILT FENCING WILL BE IN PLACE DURING SITE CONSTRUCTION. THE SILT FENCE WILL BE REMOVED UPON SITE STABILIZATION.

GENERAL NOTES:

1. ALL PAVEMENT MARKINGS INSTALLED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE THERMOPLASTIC MATERIAL.
2. LANE LINES SHOULD BE 8" (WHITE)
3. STOP LINES SHOULD BE 24" (WHITE)
4. CENTER LINES SHOULD BE 6" DOUBLE YELLOW.
5. DECELERATION LANES AND LEFT TURN LANES SHOULD HAVE TURN ARROWS (TP 2) SPACED EVERY 100'.
6. ENTIRE ROAD TO BE RESURFACED. THIS INCLUDES THE EXISTING AND PROPOSED PAVEMENT.

SCALE: 1" = 65'

THIS DRAWING AND THE DESIGN SHOWN THEREON ARE THE PROPERTY OF GOLDIE & ASSOCIATES. THE REPRODUCTION, COPYING OR USE OF THE DRAWING WITHOUT WRITTEN CONSENT IS PROHIBITED AND ANY INFRINGEMENT WILL BE SUBJECT TO LEGAL ACTION.

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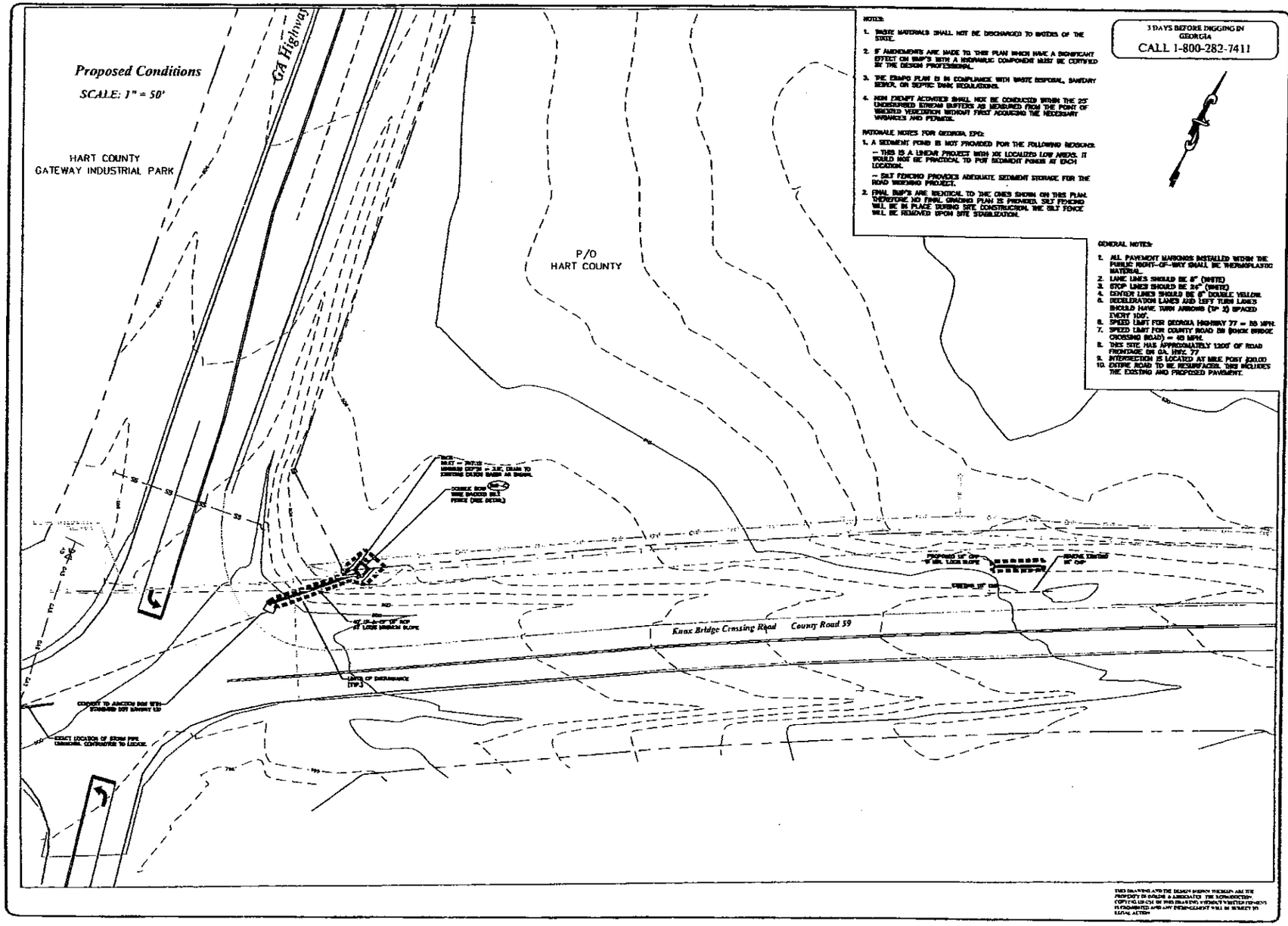
CIVIL ENGINEERS & LAND SURVEYORS
CERTIFICATE OF AUTHORIZATION NO. 000806
CERTIFICATE OF AUTHORIZATION NO. LSF000
CERTIFICATE OF AUTHORIZATION NO. LSF000
CERTIFICATE OF AUTHORIZATION NO. LSF000



NOTES:

1. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE.
2. IF AMENDMENTS ARE MADE TO THIS PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
3. THE ESAPD PLAN IS IN COMPLIANCE WITH WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC TANK REGULATIONS.
4. NON EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25' UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

RATIONALE NOTES FOR GEORGIA EPD:

1. A SEDIMENT POND IS NOT PROVIDED FOR THE FOLLOWING REASONS:
   - THIS IS A LINEAR PROJECT WITH SIX LOCALIZED LOW AREAS. IT WOULD NOT BE PRACTICAL TO PUT SEDIMENT PONDS AT EACH LOCATION.
   - SILT FENCING PROVIDES ADEQUATE SEDIMENT STORAGE FOR THE ROAD WIDENING PROJECT.
2. FINAL BMP'S ARE IDENTICAL TO THE ONES SHOWN ON THIS PLAN. THEREFORE, NO FINAL GRADING PLAN IS PROVIDED. SILT FENCING WILL BE IN PLACE DURING SITE CONSTRUCTION. THE SILT FENCE WILL BE REMOVED UPON SITE STABILIZATION.

3 DAYS BEFORE DIGGING IN GEORGIA
CALL 1-800-282-7411

GENERAL NOTES:

1. ALL PAVEMENT MARKINGS INSTALLED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE THERMOPLASTIC MATERIAL.
2. LANE LINES SHOULD BE 6" (WHITE)
3. STOP LINES SHOULD BE 24" (WHITE)
4. CENTER LINES SHOULD BE 6" DOUBLE YELLOW
5. DECELERATION LANES AND LEFT TURN LANES SHOULD HAVE TURN ARROWS (TP 2) SPACED EVERY 100'.
6. SPEED LIMIT FOR GEORGIA HIGHWAY 77 = 55 MPH.
7. SPEED LIMIT FOR COUNTY ROAD 59 (KNOX BRIDGE CROSSING ROAD) = 45 MPH.
8. THIS SITE HAS APPROXIMATELY 1200' OF ROAD FRONTAGE ON GA. HWY. 77
9. INTERSECTION IS LOCATED AT MILE POST 320.00
10. ENTIRE ROAD TO BE RESURFACED. THIS INCLUDES THE EXISTING AND PROPOSED PAVEMENT.

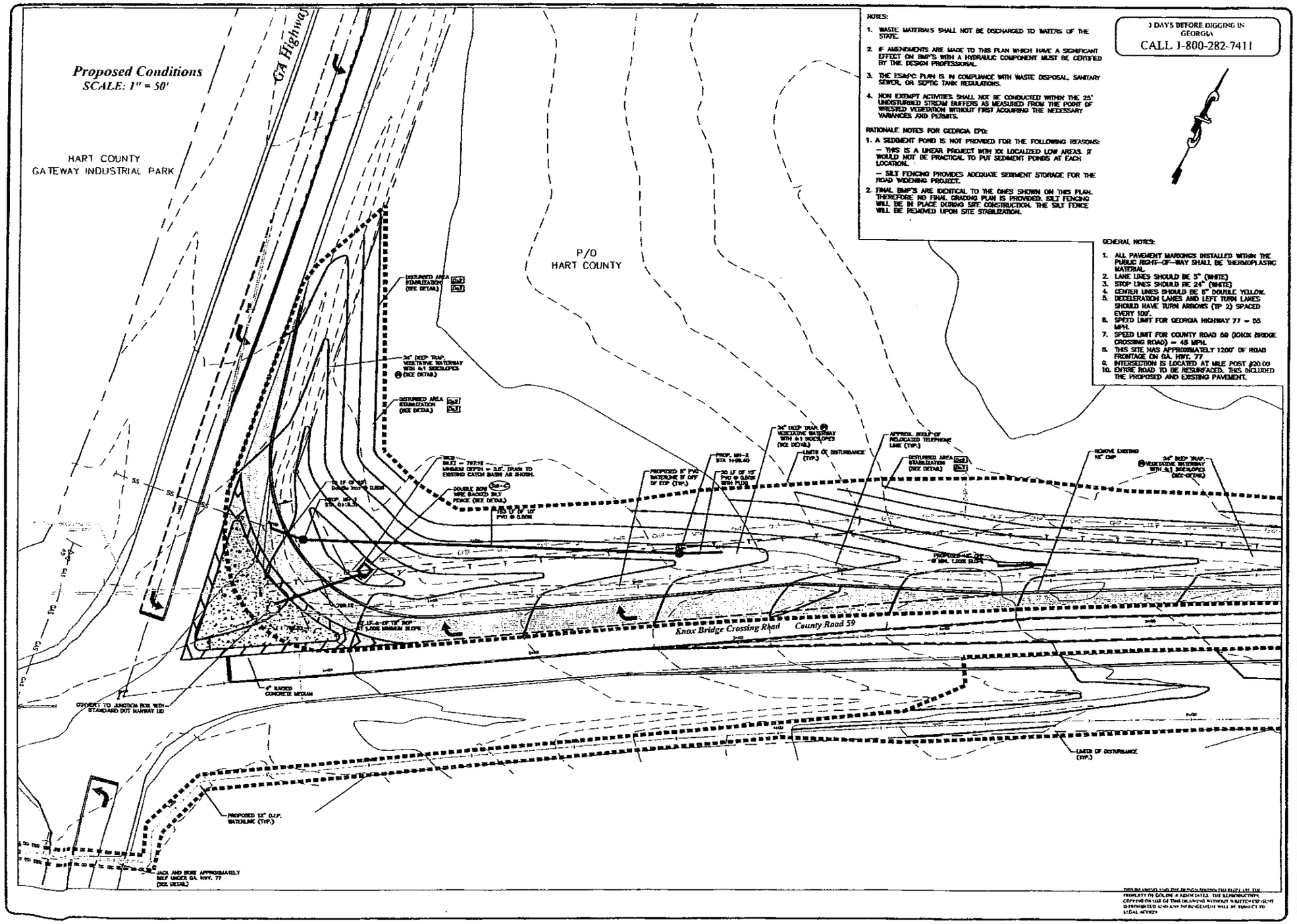
THIS DRAWING AND THE DESIGN SHOWN THEREON ARE THE PROPERTY OF GOLDIE & ASSOCIATES. THE REPRODUCTION, COPYING OR USE OF THIS DRAWING WITHOUT WRITTEN CONSENT IS PROHIBITED AND ANY INFRINGEMENT WILL BE SUBJECT TO LEGAL ACTION.

GOLDIE & ASSOCIATES
CONSULTING ENGINEERS
CIVIL ENGINEERING, ENVIRONMENTAL, SURVEYING, PLANNING
WWW.GOLDIEANDASSOCIATES.COM
ENGINEER'S STAMP

NO.	DATE	DESCRIPTION	BY
A	7/1/96	RELEASE FOR REVIEW	JRTW
B	7/15/96	REVISED PER DOT	JRTW
C	8/5/96	SITE RAIN FOR DOT REVIEW	JRTW
D	8/13/96	RELEASED FOR HART COUNTY REVIEW	JRTW

CLIENT: Hart County
PROJECT: Hart County Road Widening
SHEET TITLE: Initial Sediment & Erosion Control Plan

SHEET NO. 9 OF 17
FILE NO. 405.13.1



NOTES:

1. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE.
2. IF AMENDMENTS ARE MADE TO THIS PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
3. THE ESAPC PLAN IS IN COMPLIANCE WITH WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC TANK REGULATIONS.
4. NON EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25' UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

RATIONALE NOTES FOR GEORGIA EPD:

1. A SEDIMENT POND IS NOT PROVIDED FOR THE FOLLOWING REASONS:
   - THIS IS A LINEAR PROJECT WITH XX LOCALIZED LOW AREAS. IT WOULD NOT BE PRACTICAL TO PUT SEDIMENT PONDS AT EACH LOCATION.
   - SILT FENCING PROVIDES ADEQUATE SEDIMENT STORAGE FOR THE ROAD WIDENING PROJECT.
2. FINAL BMP'S ARE IDENTICAL TO THE ONES SHOWN ON THIS PLAN. THEREFORE NO FINAL GRADING PLAN IS PROVIDED. SILT FENCING WILL BE IN PLACE DURING SITE CONSTRUCTION. THE SILT FENCE WILL BE REMOVED UPON SITE STABILIZATION.

3 DAYS BEFORE DIGGING IN GEORGIA
CALL 1-800-282-7411

GENERAL NOTES:

1. ALL PAVEMENT MARKINGS INSTALLED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE THERMOPLASTIC MATERIAL.
2. LANE LINES SHOULD BE 5" (WHITE)
3. STOP LINES SHOULD BE 24" (WHITE)
4. CENTER LINES SHOULD BE 5" DOUBLE YELLOW.
5. DECELERATION LANES AND LEFT TURN LANES SHOULD HAVE TURN ARROWS (TP 2) SPACED EVERY 100'.
6. SPEED LIMIT FOR GEORGIA HIGHWAY 77 = 55 MPH.
7. SPEED LIMIT FOR COUNTY ROAD 59 (KNOX BRIDGE CROSSING ROAD) = 45 MPH.
8. THIS SITE HAS APPROXIMATELY 1200' OF ROAD FRONTAGE ON GA. HWY. 77
9. INTERSECTION IS LOCATED AT MILE POST #20.00
10. ENTIRE ROAD TO BE RESURFACED. THIS INCLUDED THE PROPOSED AND EXISTING PAVEMENT.

GOLDIE & ASSOCIATES
318-A W. NORTH SECOND STREET
SENECA, SOUTH CAROLINA 29678
PHONE (864) 882-4184
FAX (864) 882-2611
ANDERSON, SC PHONE (864) 964-7251
WWW.GOLDIEANDASSOCIATES.COM

ENGINEER'S STAMP

NO.	DATE	DESCRIPTION	BY
A	7/7/08	RELEASE FOR REVIEW	AMPW
B	7/15/08	REVISED FOR DOT	AMPW
C	8/1/08	RELEASE FOR DOT REVIEW	AMPW
D	8/11/08	RELEASE FOR HART COUNTY REVIEW	AMPW

CLIENT: Hart County

PROJECT: Hart County Road Widening

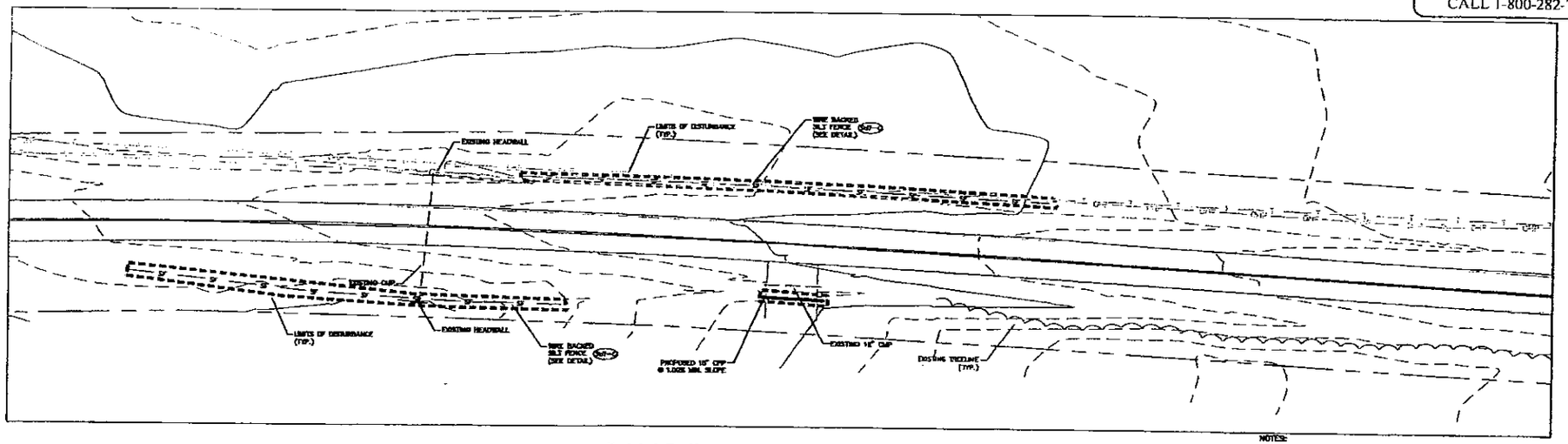
SHEET TITLE: Intermediate Sediment & Erosion Control Plan

SHEET NO. 10 OF 17

FILE NO. 405.13.1

THIS DRAWING AND ALL THE DESIGNS SHOWN THEREON ARE THE PROPERTY OF GOLDIE & ASSOCIATES. THE REPRODUCTION, COPYING OR USE OF THIS DRAWING WITHOUT WRITTEN CONSENT IS PROHIBITED AND ANY INFRINGEMENT WILL BE SUBJECT TO LEGAL ACTION.

3 DAYS BEFORE DIGGING IN GEORGIA
CALL 1-800-282-7411



Initial Sediment & Erosion Control Plan

NOTES:

1. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE.
2. IF AMENDMENTS ARE MADE TO THIS PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
3. THE ESAPC PLAN IS IN COMPLIANCE WITH WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC TANK REGULATIONS.
4. NON EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25' UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

RATIONALE NOTES FOR GEORGIA EPD:

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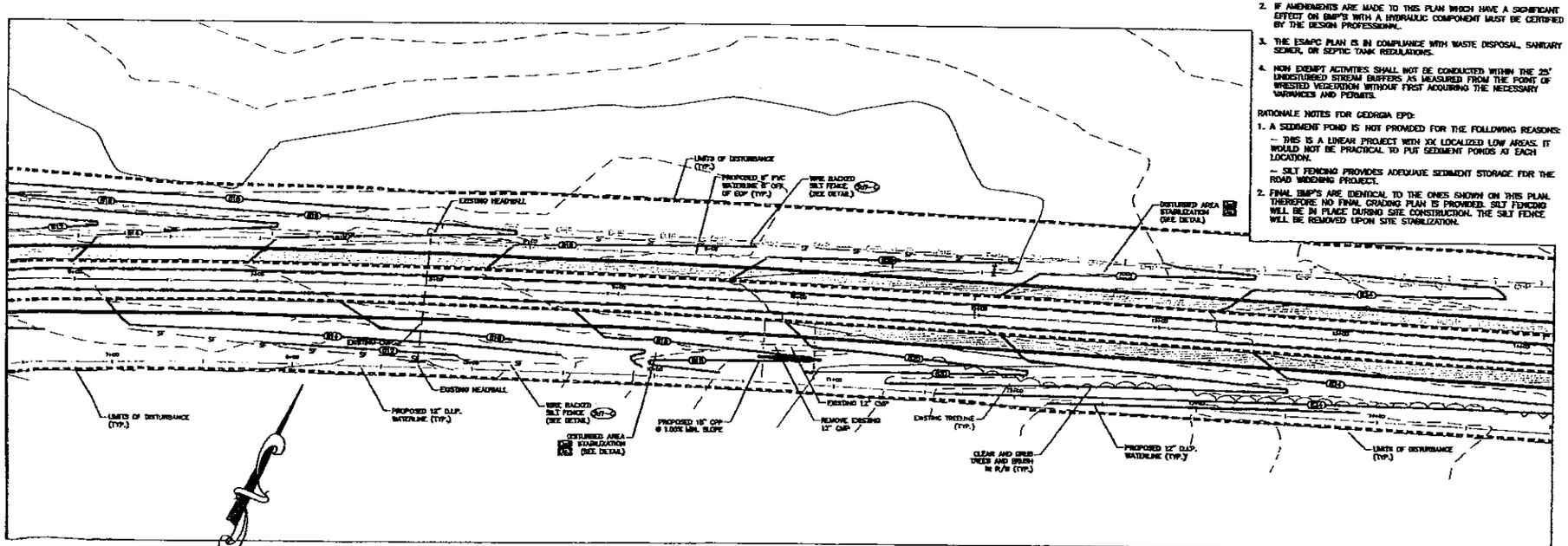

Intermediate Sediment & Erosion Control Plan

GENERAL NOTES:

1. ALL PAVEMENT MARKINGS INSTALLED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE THERMOPLASTIC MATERIAL.
2. LANE LINES SHOULD BE 5" (WHITE)
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4. CENTER LINES SHOULD BE 5" DOUBLE YELLOW.
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6. ENTIRE ROAD TO BE RESURFACED. THIS INCLUDES THE EXISTING AND PROPOSED PAVEMENT.

SCALE: 1" = 65'

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WWW.GOLDIEASSOCIATES.COM
ANDERSON, SC 29626
(864) 944-1991
TIM A. W. GOLDIE, P.E. CONSULTING ENGINEER
TIMPER, GOLDIE & ASSOCIATES, INC.
PHONE: (864) 985-8184
FAX: (864) 987-9411

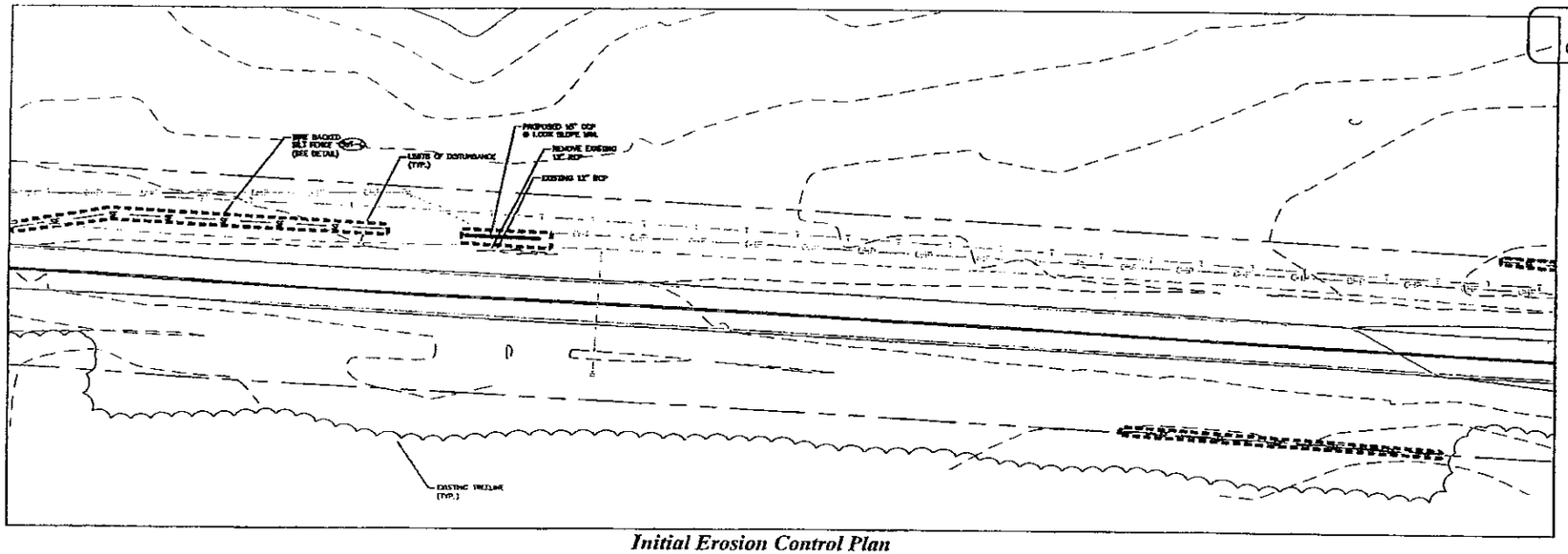
ENGINEER'S STAMP

NO.	DATE	DESCRIPTION	BY
A	7/2/08	RELEASE FOR REVIEW	AMW
B	7/15/08	REVISED PER DOT	AMW
C	8/4/08	RELEASE FOR COUNTY REVIEW	AMW
D	8/11/08	RELEASE FOR HART COUNTY REVIEW	AMW

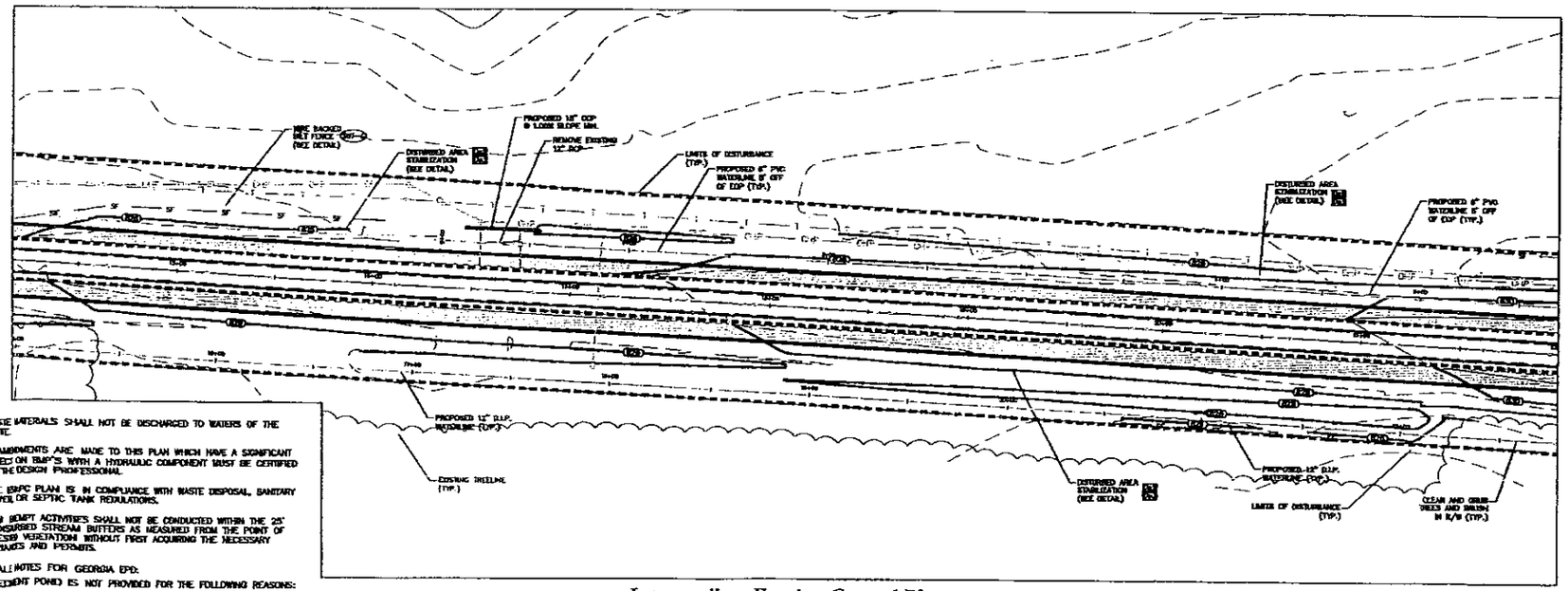
CLIENT: Hart County
PROJECT: Hart County Road Widening
SHEET TITLE: Sediment & Erosion Control Plan (1)

SHEET NO. 11 OF 17
FILE NO. 405.13.1

3 DAYS BEFORE DIGGING IN GEORGIA
CALL 1-800-282-7411



Initial Erosion Control Plan



Intermediate Erosion Control Plan

NOTES:

1. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE.
2. IF AMENDMENTS ARE MADE TO THIS PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
3. THE ESPC PLAN IS IN COMPLIANCE WITH WASTE DISPOSAL, SANITARY SEWER OR SEPTIC TANK REGULATIONS.
4. NON SOIL ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25' UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

RATIONALE NOTES FOR GEORGIA EPD:

1. A SEDIMENT POND IS NOT PROVIDED FOR THE FOLLOWING REASONS:
   - THIS IS A LINEAR PROJECT WITH NO LOCALIZED LOW AREAS. IT WOULD NOT BE PRACTICAL TO PUT SEDIMENT PONDS AT EACH LOCATION.
   - SILT FENCING PROVIDES ADEQUATE SEDIMENT STORAGE FOR THE ROAD WIDENING PROJECT.
2. FINAL BMP'S ARE IDENTICAL TO THE ONES SHOWN ON THIS PLAN. THEREFORE NO FINAL GRADING PLAN IS PROVIDED. SILT FENCING WILL BE IN PLACE DURING SITE CONSTRUCTION. THE SILT FENCE WILL BE REMOVED UPON SITE STABILIZATION.

GENERAL NOTES:

1. ALL PAVEMENT MARKINGS INSTALLED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE THERMOPLASTIC MATERIAL.
2. LANE LINES SHOULD BE 5" (WHITE)
3. STOP LINES SHOULD BE 24" (WHITE)
4. CENTER LINES SHOULD BE 5" DOUBLE YELLOW.
5. DECELERATION LANES AND LEFT TURN LANES SHOULD HAVE TURN ARROWS (TP 2) SPACED EVERY 100'.
6. ENTIRE ROAD TO BE RESURFACED. THIS INCLUDES THE EXISTING AND PROPOSED PAVEMENT.

SCALE: 1" = 65'

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WWW.GOLDIEANDASSOCIATES.COM
210-A W. NORTH BROADWAY STREET
SENECA, SOUTH CAROLINA 29678
PHONE: (864) 882-4194
FAX: (864) 882-8611
ANDERSON, SC PHONE (864) 964-1951

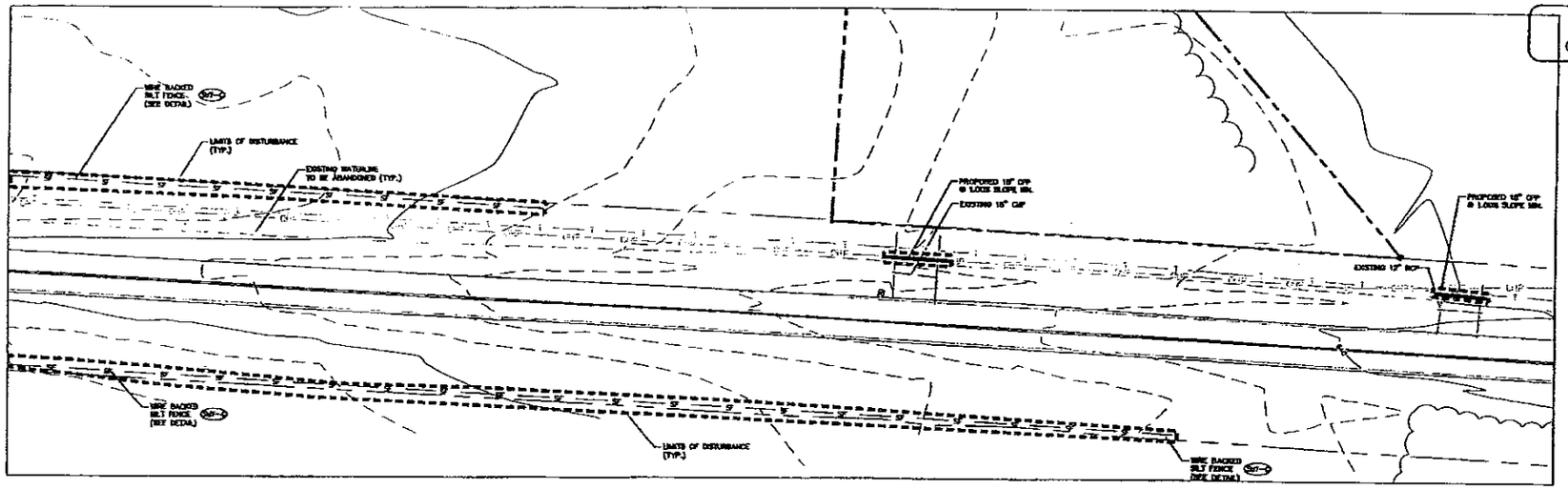
ENGINEER'S STAMP

NO.	DATE	DESCRIPTION	BY:
A	7/2/08	RELEASE FOR REVIEW	AWW
B	7/15/08	REVISED PER DOT	AWW
C	8/5/08	RELEASE FOR DOT REVIEW	AWW
D	8/13/08	RELEASE FOR HART COUNTY REVIEW	AWW

CLIENT: Hart County
PROJECT: Hart County Road Widening
SHEET TITLE: Sediment & Erosion Control Plan (2)

SHEET NO. 12 OF 17
FILE NO. 405.13.1

3 DAYS BEFORE DIGGING IN GEORGIA
CALL 1-800-282-7411



Initial Sediment & Erosion Control Plan

NOTES:

1. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE.
2. IF AMENDMENTS ARE MADE TO THIS PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
3. THE ESA/PC PLAN IS IN COMPLIANCE WITH WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC TANK REGULATIONS.
4. NON EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25' UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

RATIONALE NOTES FOR GEORGIA EPD:

1. A SEDIMENT POND IS NOT PROVIDED FOR THE FOLLOWING REASONS:
   - THIS IS A LINEAR PROJECT WITH XX LOCALIZED LOW AREAS. IT WOULD NOT BE PRACTICAL TO PUT SEDIMENT PONDS AT EACH LOCATION.
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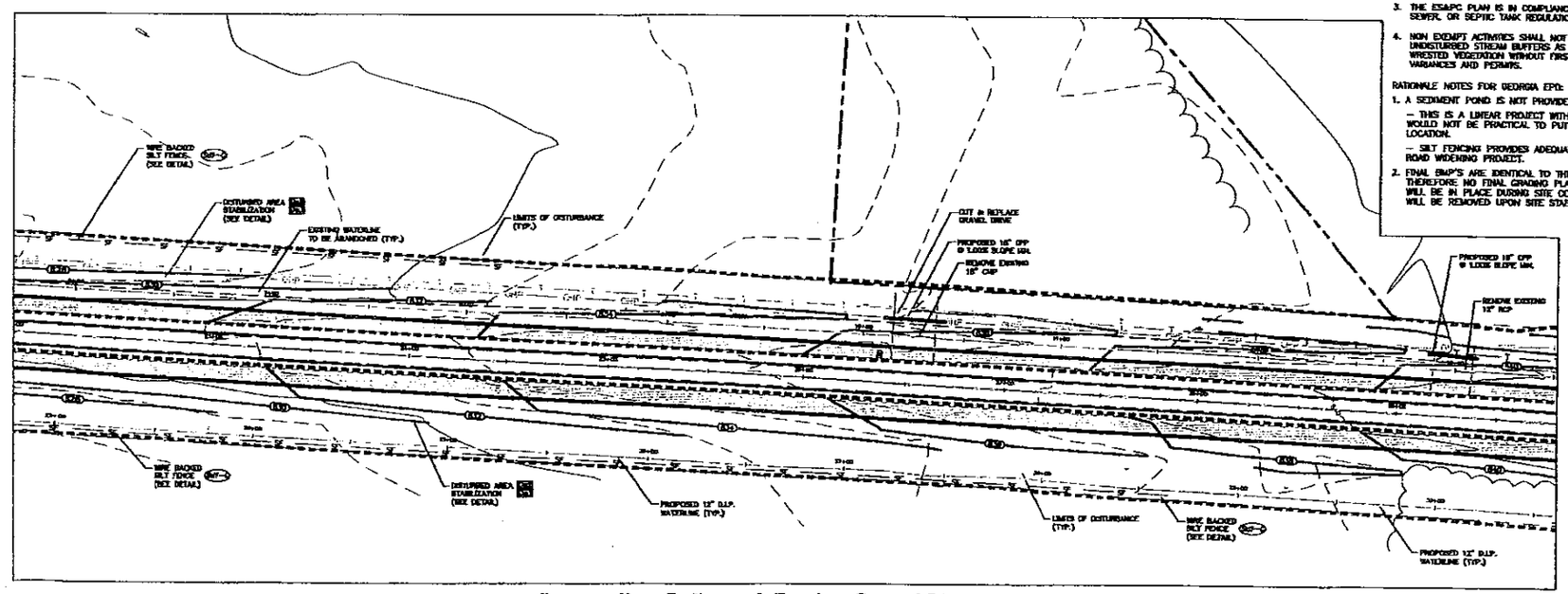

Intermediate Sediment & Erosion Control Plan

GENERAL NOTES:

1. ALL PAVEMENT MARKINGS INSTALLED WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE THERMOPLASTIC MATERIAL.
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5. DECELERATION LANES AND LEFT TURN LANES SHOULD HAVE TURN ARROWS (TP 2) SPACED EVERY 100'.
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SCALE: 1" = 65'

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WWW.GOLDIEASSOCIATES.COM
715-A W. NORTH SECOND STREET
SENECA, SOUTH CAROLINA 29678
PHONE (864) 882-8144
FAX (864) 882-8145
ANDERSON, SC PHONE (864) 261-3951

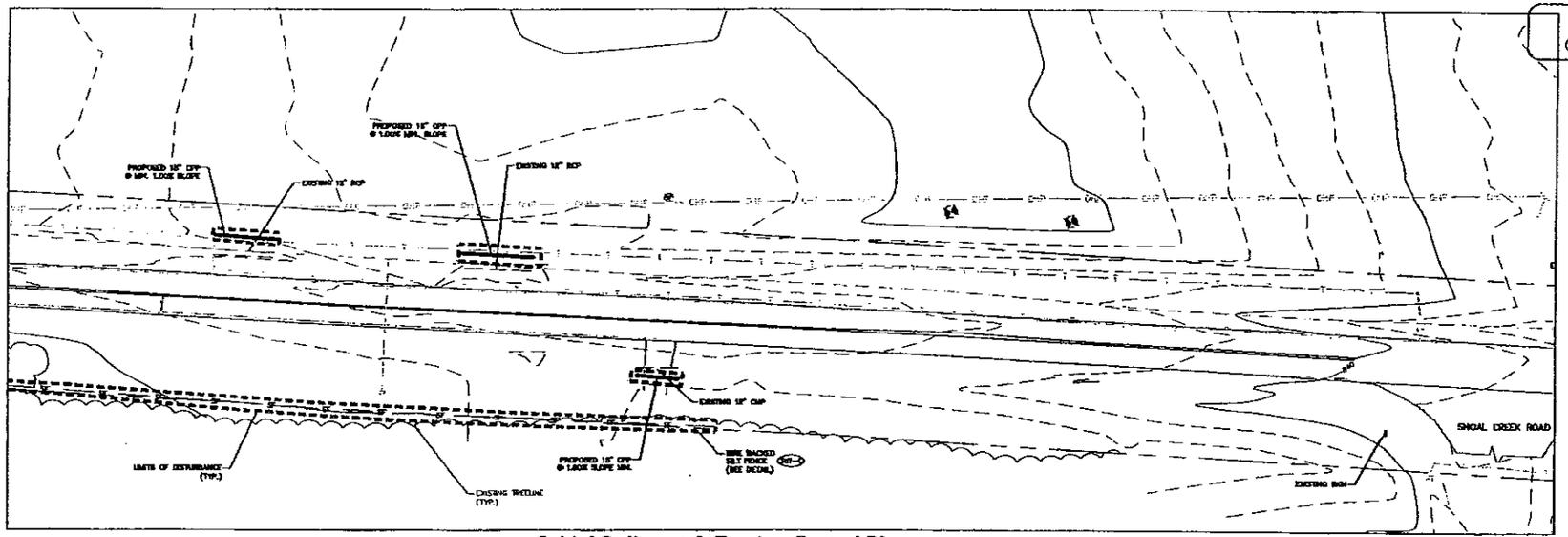
ENGINEER'S STAMP

NO.	DATE	DESCRIPTION	BY:
A	7/7/08	RELEASE FOR REVIEW	AWTW
B	7/15/08	REVISED PER DOT	AWTW
C	8/1/08	RELEASE FOR DOT REVIEW	AWTW
D	8/11/08	RELEASE FOR HART COUNTY REVIEW	AWTW

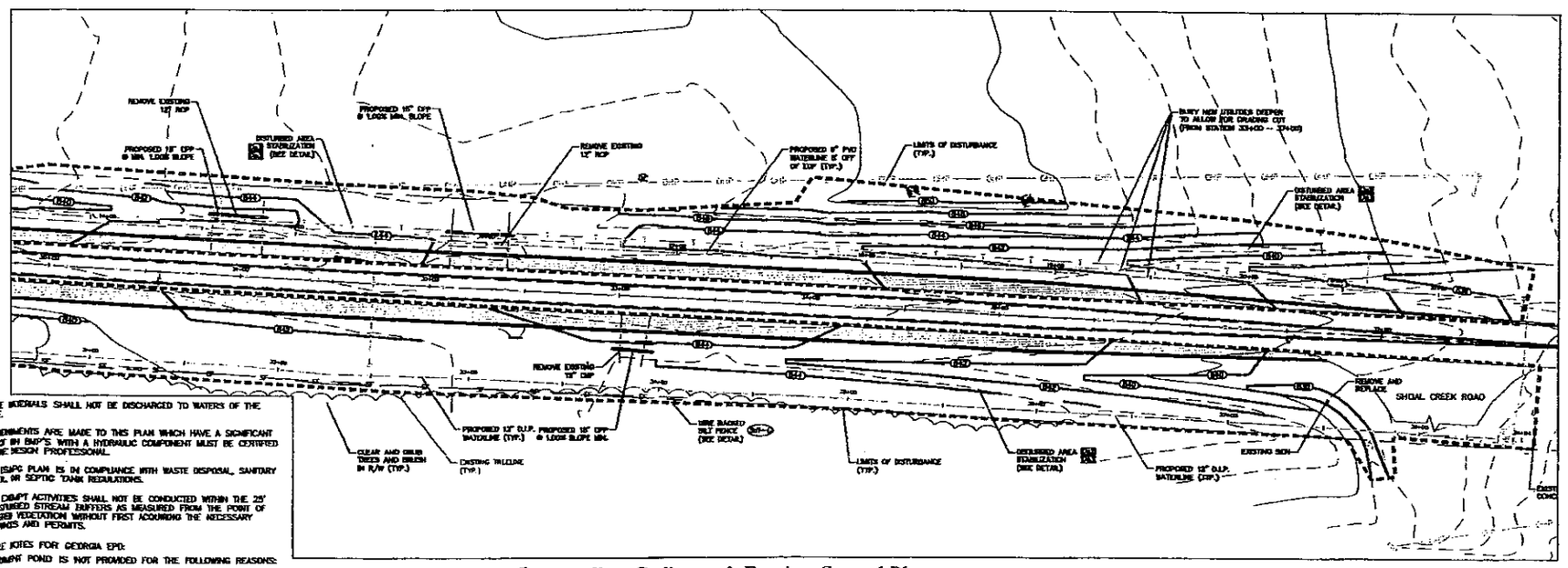
CLIENT: Hart County
PROJECT: Hart County Road Widening
SHEET TITLE: Sediment & Erosion Control Plan (3)

SHEET NO. 13 OF 17
FILE NO. 405.13.1

3 DAYS BEFORE DIGGING IN GEORGIA
CALL 1-800-282-7411



Initial Sediment & Erosion Control Plan



Intermediate Sediment & Erosion Control Plan

NOTES:

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2. IF AMENDMENTS ARE MADE TO THIS PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMP'S WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.
3. THE ESPC PLAN IS IN COMPLIANCE WITH WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC TANK REGULATIONS.
4. NOISE DIMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25' UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

RATIONALE NOTES FOR GEORGIA EPD:

1. A SEDIMENT POND IS NOT PROVIDED FOR THE FOLLOWING REASONS:
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SCALE: 1" = 65'

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GOLDIE & ASSOCIATES
ENGINEERING, ENVIRONMENTAL, AND LANDSCAPE ARCHITECTURE
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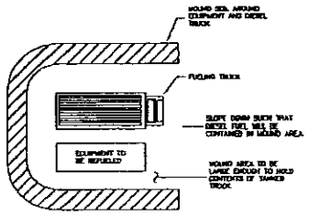
ENGINEER'S STAMP

NO.	DATE	DESCRIPTION	BY:
A	7/2008	RELEASE FOR REVIEW	AMTW
B	7/15/08	REVISED PER DOT	AMTW
C	9/2008	RELEASE FOR DOT REVIEW	AMTW
D	2/13/09	RELEASE FOR HART COUNTY REVIEW	AMTW

CLIENT: Hart County
PROJECT: Hart County Road Widening
SHEET TITLE: Sediment & Erosion Control Plan (4)

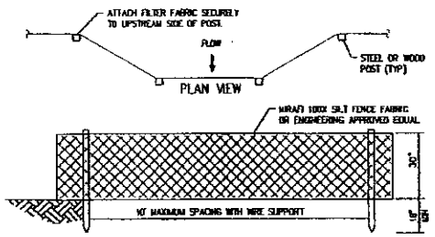
SHEET NO. 14 OF 17

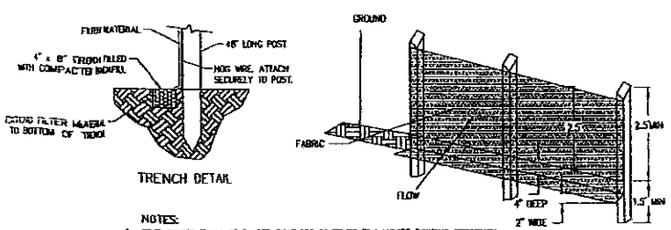
FILE NO. 405.13.1



DIESEL FUELING AREA POLLUTION CONTROL PLAN

NOT TO SCALE



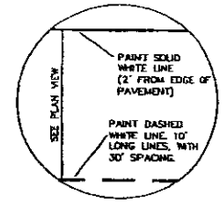


NOTES:

1. SILT FENCES SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. SEDIMENT SHALL BE REMOVED BEFORE IT REACHES 12" BELOW TOP OF FABRIC.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
4. UPON PROJECT COMPLETION, THE SILT FENCE SHALL BE REMOVED AND HAULED OFF-SITE. ANY DEPOSITED SEDIMENT SHALL BE PROPERLY GRADED AND SEEDED.

(Sd1-C) **SILT FENCE DETAIL**

NOT TO SCALE



STRIPING FOR NEW LANES

N.T.S.

GEORGIA D.O.T. NOTES

THE WORK AUTHORIZED MUST BEGIN WITHIN THREE MONTHS AND BE COMPLETED WITHIN TWELVE MONTHS ON A SCHEDULE SATISFACTORY TO THE DEPARTMENT FROM THE PERMIT APPROVAL DATE AND ALSO, BE COMPLETED BEFORE THIS FACILITY IS OPEN TO THE PUBLIC.

THE FOLLOWING WILL NOT BE ALLOWED ON DOT RIGHT-OF-WAY: (1) DIVERSION OF ADDITIONAL DRAINAGE AREA ONTO RIGHT-OF-WAY, OR INCREASE IN THE CFS OR CURRENT VOLUMES OF WATER (2) GRADING EXCEPT AT DRIVEWAY CONSTRUCTION LOCATION. (3) HEADWALLS, (4) SIGNS, DISPLAY DEVICES, AND OTHER STRUCTURES WHICH ARE DESIGNED, INTENDED, OR USED TO ADVERTISE OR INFORM. (5) LANDSCAPING WITHOUT PRIOR APPROVAL OF THE LANDSCAPE PLAN.

ALL EXISTING UTILITIES WHICH WOULD BE UNDER NEW PAVEMENT OR IN ACCELERATION/DECELERATION LANES SHALL BE RELOCATED BEFORE TRIAL GRADING OR PAVING AND AT NO COST TO THE DOT, OR AN APPROVED RELOCATION LETTER FROM THE UTILITY OWNER.

CONSTRUCTION OF EROSION CONTROL BARRIERS PER GEORGIA DEPARTMENT OF NATURAL RESOURCES CODE 391-3-7 AND SHALL BE MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED.

APPLICANT SHALL RESTORE ALL EXISTING SIGNS AND REGRASS TO DOT SPECIFICATIONS ALL RIGHT OF WAY THAT IS DISTURBED DURING WORK AUTHORIZED HEREIN.

THE PERMIT APPLICANT IS RESPONSIBLE FOR REPLACEMENT OF ALL EXISTING PAVEMENT MARKINGS DAMAGED BY THE PERMIT CONSTRUCTION AND THE ADDITION OF NEW PAVEMENT MARKINGS AND OR SIGNS AS SHOWN ON THE APPROVED PLAN, OR CURRENT M.U.T.C.D. GUIDELINES.

ALL CURBED ISLANDS SHALL BE FILLED TO THE TOP OF CURB WITH TOP SOIL AND GRASSED. NOTE: THIS APPROVAL DOES NOT ALLOW ANY WORK ON STATE RIGHT-OF-WAY IN CONNECTION WITH UTILITY LINES (SANITARY SEWER, WATER, TELEPHONE, GAS, ETC.)

REQUIRED PAVEMENT SPECIFICATIONS

1 ½" _____ 9.5 mm SUPERPAVE
2" _____ 19 mm SUPERPAVE
8" _____ 25 mm SUPERPAVE
12" _ GRADED AGGREGATE BASE COURSE

NOTICE

THIS PERMIT IS SUBJECT TO THE REVISIONS AND COMMENTS SHOWN IN RED ON THE ATTACHED PLAN COPY AND SHALL REMAIN DEPENDANT UPON COMPLIANCE WITH THESE.

NO WORK WILL BE ACCOMPLISHED UNDER THIS PERMIT WITHIN THE CONSTRUCTION LIMITS OF ANY DOT PROJECT WITHOUT WRITTEN APPROVAL OF THE PRIME CONTRACTOR.

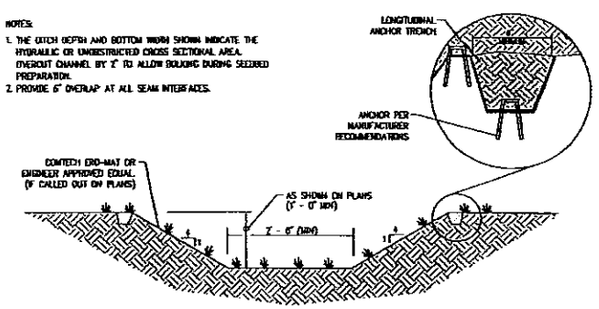
THE MAINTENANCE OF THE DRIVWAY FROM THE NORMAL EDGE OF PAVEMENT IS THE RESPONSIBILITY OF THE PERMITEE.

OVERLAY SHALL BE AS DIRECTED BY GDOT PERMIT INSPECTOR.

ALL SIDEWALKS, CROSSWALKS AND RAMPS SHALL MEET ADA STANDARDS GDOT DETAILS.

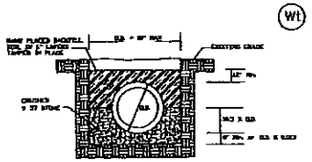
NOTES:

1. THE DITCH DEPTH AND BOTTOM WIDTH SHOWN INDICATE THE HYDRAULIC OR UNRESTRICTED CROSS SECTIONAL AREA. OVERDUG CHANNEL BY 2' TO ALLOW BULKING DURING SEEDBED PREPARATION.
2. PROVIDE 6' OVERLAP AT ALL SEAM INTERFACES.



(Wt) **VEGETATIVE WATERWAY**

NOT TO SCALE



1. BACKFILL & BEDDING MATERIAL FOR CONDUIT (EXCEPT CLASS IV) SHALL BE CLASS B, TYPE 2 STONE PER SPECIFICATIONS IN THE SPECIFICATIONS OF THE PIPE.
2. BACKFILL & BEDDING MATERIAL FOR ALL OTHER TYPES OF PIPE SHALL BE CLASS SPECIFIED TO BE USED FOR BEDDING PURPOSES, UNLESS OTHERWISE SPECIFIED ON THE DRAWING.
3. ALL BELOWGROUND CONDUIT SHALL BE BACKFILLED TO THE UPPER PORTION OF THE PIPE.

STANDARD PIPE IN TRENCH SECTION

NOT TO SCALE

THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH LAND-DISTURBING ACTIVITIES.

EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN USED NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.

ALL DESIGNS WILL CONFORM TO AND ALL WORK WILL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATION OF THE PUBLICATION ENTITLED, MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA.

SEDIMENT & EROSION CONTROL MEASURES WILL BE INSPECTED DAILY. ANY DAMAGED OBSERVED WILL BE REPAIRED BY THE END OF THAT DAY. SEDIMENT BARRIERS WILL REMAIN IN PLACE UNTIL SEDIMENT CONTAMINATED AREAS ARE STABILIZED. SEDIMENT FENCES WILL THEN BE REMOVED AND THE AREAS OCCUPIED BY THOSE STRUCTURES VEGETATED.

THE EXTENT AND LOCATION OF EROSION CONTROL MEASURES SHOWN ARE THE ESTIMATED REQUIRED. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DUE TO ACTUAL FIELD CONDITIONS, AND WILL BE INSTALLED WHEN DIRECTED BY THE CONSULTING AUTHORITY.

J DAYS BEFORE DIGGING IN GEORGIA
CALL 1-800-282-7411

Slope	Seedbed Depth
3:1 or Flatter	Less than 4" Depth
2:1 to 3:1	1" to 4" Depth
2:1 or Steeper	Implement Part a - c Input Sec. 8 necessary

(Ds3) Suggested Seedbed Depths

Material	Rate	Depth
Straw or Hay	2-1/2 Ton/Acre	2" to 3"
Wood Waste, chips, sawdust, bark	8 to 6 Ton/Acre	2" to 3"
Emulsified asphalt	1500 gal./Acre or 1/4 gal./sq.yd.	2" to 3"

(Ds1) MULCHING APPLICATION REQUIREMENTS

Times of Seeding	Planting Time	Fertilizer Rate (Lbs/Acre)	Lime Rate (Tons/Acre)	% Ag. Grade Rate (Lbs/Acre)
Cool Season Grass	Fall Maintenance	8-12-12 8-12-12 10-10-10	1000 1000 1000	50-100 50
Cool season grasses & legumes	Fall Maintenance	8-12-12 8-12-12 0-10-10	1000 1000 1000	0-50 -
Warm season grasses	Fall Maintenance	8-12-12 8-12-12 10-10-10	1000 1000 1000	50-100 50-100 50
Warm Season O'Grass & legumes	Fall Maintenance	8-12-12 8-12-12 0-10-10	1000 1000 1000	50 -

(Ds2) Fertilizer Requirements for Temporary Vegetation

(Ds3) Fertilizer Requirements For Permanent Vegetation

(Ds1) DISTURBED AREA STABILIZATION (WITH MULCH ONLY)

- Install all other required BMP's first.
- Grade site, if possible, to permit the use equipment for applying and anchoring mulch.
- Loosen compacted soil, if possible, to a depth of three (3) inches.
- Apply straw or hay uniformly, as shown in Table 1, by hand, and anchor by pressing into soil or use netting.
- Mulch on slopes greater than 3% should be anchored with emulsified asphalt (grade AE-5 or SS-1) or other suitable tackifier.
- Wood waste on slopes flatter than 3:1 do not need anchoring.

(Ds3) DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)

Species	Seed per Acre	Seed per 1,000 sq. ft.	Planting Dates by Zones A	B	C	Remarks
Bermuda, Hulled 50 lbs. Unhulled 75 lbs.	10 lbs. 50 lbs.	0.3 lbs. 0.1 lbs.		4/10-5/20		[illegible]
Bermuda Hybrid Tifton 44, Tifway, other vegetative varieties	10 lbs. 50 lbs.	0.3 lbs. 0.3 lbs.		3/10-5/20		Plant on 6" centers. Plant on 12" centers.
Bermuda Hybrid Common Hulled Seed	50 lbs.	1.1 lbs.		4/1-9/10		1 lb. = 1 sod 1 lb. = 1 sod 1 lb. = 1 sod
Fescue, Tall Kentucky 31 and other permanents	30 lbs.	0.7 lbs.		8/15-10/15 or 2/10-4/10		[illegible]
Lespedeza, Serecea Interior	50 lbs.	1.1 lbs.		2/10-3/20		[illegible]
Lespedeza, Sericea Scarified Bacteria Inoculated	20 lbs.	0.5 lbs.		11/1-3/15		[illegible]
Lespedeza, Kobe, Korean, or other permanents	5 lbs. 3 lbs.	0.1 lbs. 0.05 lbs.		3/10-3/20		

1. Rates are for broadcasted seed. If a cover crop is used, reduce the rates by one-half.
2. Apply agricultural lime as prescribed by soil test or at a rate of 1 to 2 tons per acre.

NOTE: SEE SHEET 5 FOR SPECIFIC INFORMATION ON GRASSING OF BALLFIELDS.

(Ds2) DISTURBED AREA STABILIZATION (WITH TEMPORARY VEGETATION)
Some Temporary Plant Species, Seeding Rates, and Planting Dates

Species	Seed per Acre	Seed per 1,000 sq. ft.	Planting Dates by Zones A	B	C
Rye (Grain)	3 bu.	2.2 lbs.			9/20-12/1 1/1-4/1
Bermuda	40 lbs.	0.9 lbs.		8/1-12/15	
Rye and Annual Lespedeza	0.5 bu. 25 lbs.	0.9 lbs. 0.6 lbs.		3/1-4/1	
Annual Lespedeza	6 lbs.	0.1 lbs.		4/1-8/1	
Pearlmillet	50 lbs.	1 lb.		5/1-8/1	
Sudangrass					
Wheat	90 lbs.	1.1 lbs.		8/15-11/1	
Oats	3 bu.	4.1 lbs.		10/1-12/15	

NOTES:

1. Unusual site conditions may require heavier seeding rates.
2. Seeding dates may need to be altered to fit temperature variations and local conditions.

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ENGINEERING, ENVIRONMENTAL, SURVEYING & TESTING
WWW.GOLDIEASSOCIATES.COM

ENGINEER'S STAMP

NO.	DATE	DESCRIPTION	BY
1	7/2/08	RELEASE FOR REVIEW	AMTW
2	7/15/08	REVISED PER DOT	AMTW
3	8/4/08	RELEASE FOR DOT REVIEW	AMTW
4	8/13/08	RELEASE FOR HART COUNTY REVIEW	AMTW

CLIENT: Hart County
PROJECT: Hart County Road Widening
SHEET TITLE: Sediment & Erosion Control Details

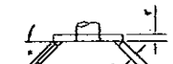
SHEET NO. 15 OF 17

FILE NO. 405.13.1

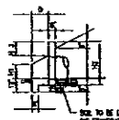
3 DAYS BEFORE DIGGING IN GEORGIA
CALL 1-800-282-7411

TABLE I												
HEADWALL DIMENSIONS FOR METAL PIPE												
NOMINAL DIA. OF PIPE	BELL SIZE	REINF.	W 1	W 2	H 1	H 2	H 3	b	t	a	VOL.
12", 15"	18", 21"	yes	3'-1"	5'-5"	1'-3"	2'-1"	1'1"	1'-3"	1'-6"	6"	1800
18"	27"	yes	3'-8"	6'-6"	1'-8"	2'-7"	1'-3"	1'1"	1'-8"	1'-3"	2700
21", 24"	33"	yes	4'-3"	7'-7"	1'-8"	2'-3"	1'1"	1'-10"	1'-8"	1'3"	3600
27", 30"	39"	yes	4'-8"	8'-4"	2'-1"	2'-8"	1'1"	2'-1"	2'-3"	1'3"	5200
36"	48"	yes	5'-8"	10'-10"	2'-3"	3'-6"	1'1"	2'-11"	2'-4"	1'3"	7800
42", 48"	58", 63"	yes	6'-7"	11'-6"	2'-8"	3'-8"	1'1"	3'-4"	2'-3"	1'3"	7300
54", 60"	72", 80"	yes	8'-8"	13'-4"	2'-3"	3'-8"	1'3"	3'-4"	2'-3"	1'3"	10000
66", 72"	90"	yes	8'-8"	13'-4"	2'-3"	3'-8"	1'3"	3'-4"	2'-3"	1'3"	10000

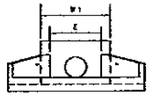
NOTES:
1. ALL CONCRETE TO BE 4000 PSI MIN.
2. REINFORCEMENT STEEL SHALL MEET ASTM A615 GRADE 60 WITH 3" MIN CLEARANCE.
3. CHAMFER ALL EXPOSED EDGES 3/4".
4. PRECAST HEADWALL UNIT SHALL BE CAREFULLY FITTED ON THE PREPARED FOUNDATION AND PIPE, MORTARED INTO HEADWALL OR HEADWALL OLD OVER PIPE AND CHECKED FOR ALIGNMENT.
5. PIPE SHALL BE GROUTED INTO HEADWALL WITH EXPANSIVE MATERIAL BY CONTRACTOR. EXPANDING AGENT MUST BE WELL IN REGARDER.
6. CARE SHALL BE TAKEN DURING BACKFILLING AND COMPACTION TO PREVENT DAMAGE AND MAINTAIN ALIGNMENT. WHEN DAMAGE TO THE UNIT MUST BE REPAIRED BY CONTRACTOR WITH PERMITTED BY ENGINEER.
7. REINFORCEMENT VARIES WITH SIZE OF UNIT.
8. VARIOUS HOLE SIZE AND SHAPES AVAILABLE BY SPECIAL ORDER.
9. ALL DIMENSIONS ARE NOMINAL.



PLAN

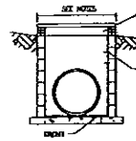


SIDE



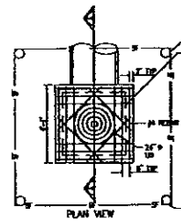
FRONT ELEVATION

HEADWALL DETAIL
NOT TO SCALE

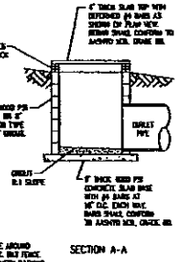


ELEVATION VIEW

NOTES:
1. FOR 18" - 24" I.D. PIPES USE 12" x 48" BOX.
2. FOR PIPES OVER 24" I.D., BOXES LENGTH AND WIDTH IS E.D. + 0.0 FOR 4 8" EACH SIDE.
3. IF REINFORCED CONCRETE BARRIS MAY BE PRECAST PRIOR TO INSTALLATION, IN LIEU OF MONOLITHIC IN PLACE. THE USE OF PRECAST UNITS WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF OBTAINING SATISFACTORY INSTALLATIONS.
4. SEE PLANS FOR INLET TYPE.



PLAN VIEW



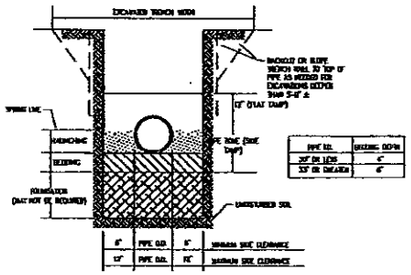
SECTION A-A

CATCH BASIN DETAIL (WTICB)
NOT TO SCALE

GENERAL NOTES FOR SOIL EROSION AND SEDIMENT CONTROL

[redacted]
P.O. BOX 1187 / 148 E. HOWELL ST.
HARTWELL, GA 30643
(706)376-8777

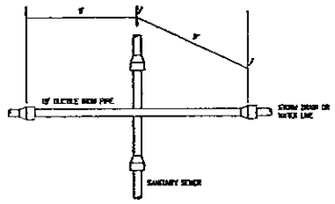
24-HOUR CONTACT: [redacted]
CURRENT USE: PROPERTY IS MODERATELY WOODED
PROJECT LOCATION: HART COUNTY, GEORGIA
Soil Classification: ChA3: Cecil Sandy Loam 10-25% Slopes, severely eroded
ChC3: Cecil Sandy Clay Loam 10-15% slopes, severely eroded
LoE2: Lowndes Sandy Clay Loam 10-12% slopes, moderately eroded
AREA: TOTAL PROJECT IS APPROX. 12.8 AC. DISTURBED AREA IS 3.1 AC.
ZONING: THE PROPERTY IS NOT ZONED
1. There is a small intermittent branch as depicted on the erosion control plans
2. Recreational areas to be developed at a later date.
3. Utilities are not included with this design and will be submitted separately.



PIPE I.D.	BEDDING DEPTH
30" OR LESS	4"
33" OR GREATER	6"

NOTES:
1. FOR TRENCHES REQUIRING SHEETING, BRACING, STAY BRACING, TRENCH JACKS OR TRENCH BOX, BACKFILL SHALL BE TAKEN FROM THE WORK FACE OF THE SUPPORTS.
2. IF THE MAXIMUM TRENCH WIDTH MAY BE EXCEEDED OR IF THE PIPE IS INSTALLED IN A COMPACTED EMBANKMENT, THEN PIPE UNDERNEAT SHOULD BE COMPACTED TO A POINT AT LEAST 2 1/2 x PIPE DIAMETER FROM THE PIPE OR BEDDING SIDES OF THE PIPE OR TO THE TRENCH WALL WHEREVER IS LESS.
3. BEDDING IS REQUIRED TO MAKE TRENCH BOTTOM UP TO GRADE AND PROVIDE UNIFORM AND ADEQUATE LONGITUDINAL SUPPORT UNDER THE PIPE. SHAPE TRENCH BOTTOM TO CONFORM TO PIPE.
4. USE SELECT BACKFILL IN TRENCH. PLACE IN 6" COMPACTED LAYERS. CONTRACTOR TO ENSURE 95 % MAXIMUM DENSITY.
5. HAUNCHING & BEDDING MATERIAL FOR GRAVITY SEWER LINES SHALL BE CLASS II, TYPE 2 WITH 1/2 WASHED STONE TO THE SPRING LINE OF THE PIPE.
6. HAUNCHING & BEDDING MATERIAL FOR ALL GRADED TYPES OF PIPE SHALL BE CLEAN COMPACTED FILL TO ENSURE 95% MAXIMUM DENSITY, UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS.
7. ALL HAUNCHING AND BEDDING MATERIALS SHALL BE PLACED IN THE DRY PRIOR OF THE PIPE.

WATER AND SEWER STANDARD PIPE TRENCH CROSS SECTION DETAIL
NOT TO SCALE



PLAN VIEW

SECTIONAL VIEW

NOTES
ONE DUCTILE IRON SEWER PIPE WITH 18" (1.5') OR LESS CLEARANCE OF PIPE CROSSING AND "UNDERNEAT" PROPOSED SANITARY SEWER (PROVIDED UNDER A WATER OR STORM DRAIN LINE. USE DUCTILE IRON WELDED PIPE WITHOUT WATER MAIN CROSSES OVER SANITARY SEWER OR STORM DRAIN LINE.

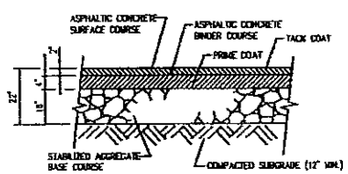
PIPE CROSSING DETAIL
NOT TO SCALE

EROSION CONTROL NOTES :
1. ALL SEDIMENT MEASURES SHALL BE INSPECTED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND AFTER STORM EVENTS OF GREATER THAN 0.5 INCHES OF PRECIPITATION DURING ANY 24-HOUR PERIOD. ALL SEDIMENT CONTROL FEATURES SHALL BE MAINTAINED UNTIL FINAL STABILIZATION HAS BEEN OBTAINED. ALL DAMAGED OR INEFFECTIVE SEDIMENT MEASURES SHALL BE REPAIRED OR REPLACED, AS NECESSARY. INSPECTIONS SHALL BE DOCUMENTED AND SUBMITTED MONTHLY TO THE ENGINEER.
2. ALL DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION HAS TEMPORARILY OR PERMANENTLY CEASED SHALL BE STABILIZED WITH GRASSING AS SOON AS PRACTICABLE AND IN NO CASE EXCEEDING FOURTEEN (14) DAYS FOLLOWING WORK STOPPAGE UNLESS CONSTRUCTION WILL RESUME WITHIN THE SUBSEQUENT SEVEN (7) DAYS.
3. PROVIDE OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED AND STABILIZED WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION.
4. PROVIDE HEAVY GOODE FABRIC UNDER ALL RIP RAP AREAS.
5. SLOPES THAT ARE STEEPER THAN 3:1 SHALL BE STABILIZED AS NECESSARY WITH SYNTHETIC OR VEGETATIVE MATS IN ADDITION TO GRASSING / HYDRO SEEDING TO ENSURE THEIR INTEGRITY. TEMPORARY SLOPE DRAINS SHALL BE INSTALLED AS NECESSARY DURING CONSTRUCTION WHERE SAND SLOPES EXCEED (8) VERTICAL FEET. TEMPORARY BERMS MAY BE NEEDED UNTIL THE SLOPE IS BROUGHT TO GRADE.
6. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION, IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.
7. THE CONTRACTOR SHALL TAKE NECESSARY ACTION TO MINIMIZE MUD BEING TRACKED FROM CONSTRUCTION AREAS TO ANY PAVED ROADWAYS. THE CONTRACTOR SHALL REMOVE MUD/SOIL FROM THE PAVEMENT DAILY AS OFTEN AS MAY BE REQUIRED. INSPECTIONS SHALL BE PERFORMED DAILY, DOCUMENTED, AND SUBMITTED TO THE ENGINEER MONTHLY.
8. TEMPORARY DIVERSION BERMS/ DITCHES SHALL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT-LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS
9. THE CONTRACTOR SHALL INSTALL A TEMPORARY SOIL BERM IN THE AREA WHERE THE CONTRACTOR INTENDS TO REFUEL THE CONSTRUCTION EQUIPMENT. THE BERM SHALL BE LARGE ENOUGH TO CONTAIN A FUEL SPILL FROM THE REFUELING TRUCK OR TANK. THE REFUELING AREA MUST BE INSPECTED DAILY AND REPORTS OF SUCH INSPECTION SHALL BE REPORTED MONTHLY TO THE ENGINEER.

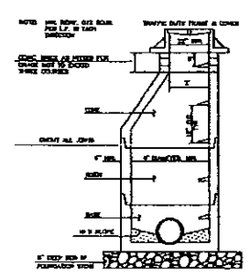
SEEDBED PREPARATION NOTES : (FOR PERMANENT SEEDING)
1. SEDIMENT WATER CONTROL MEASURES TO BE INSTALLED ACCORDING TO PLANS.
2. AREAS TO BE SEEDED SHALL BE RIPPED AND SPREAD WITH AVAILABLE TOPSOIL 3" DEEP. TOTAL SEEDED PREPARED DEPTH SHALL BE 4".
3. LOOSE ROCKS, ROOTS AND OTHER OBSTRUCTIONS SHALL BE REMOVED FROM THE SURFACE SO THAT THEY WILL NOT INTERFERE WITH THE ESTABLISHMENT AND MAINTENANCE OF VEGETATION. THE SURFACE FOR FINAL SEEDBED PREPARATION AT FINISHED GRADES SHOWN SHALL BE SMOOTH AND UNIFORM.
4. IF NO SOIL TEST IS TAKEN, FERTILIZER AND LIME ARE TO BE USED AS DESCRIBED ABOVE. NO MORE 0.15 LBS. PER 1000 SQ.FT. OF SUPER PHOSPHATE IS TO BE PROVIDED.
5. IF SOIL TEST IS TAKEN, PROVIDE FERTILIZER AND LIME ACCORDING TO RESULTS OF TEST.
6. LIME AND FERTILIZER SHALL BE APPLIED UNIFORMLY AND MIXED WITH THE SOIL DURING SEEDBED PREPARATION.

PERMANENT GRASSING NOTES :
1. SEED PERMANENT GRASS, AS OUTLINED IN CONSTRUCTION SCHEDULE.
2. RE-SEED ANY FILL AREAS WHICH DEVELOP AND USE HAY BALE PROTECTION TO REESTABLISH VEGETATIVE COVER DURING CONSTRUCTION PERIOD.

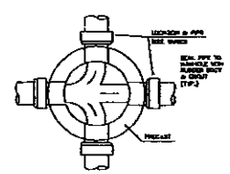
EXCAVATION NOTES:
1. IF CONTRACTOR UNCOVERS A HISTORICAL SITE OR A GRAVEYARD, THE CONTRACTOR SHALL IMMEDIATELY CEASE CONSTRUCTION ACTIVITIES AND NOTIFY THE ENGINEER.



HEAVY DUTY ASPHALT PAVEMENT
N.T.S.



SEWER MANHOLE NOTES:
1. MANHOLE SHALL MEET OR EXCEED ASTM-C478 (LATEST REV.)
2. MINIMUM WALL THICKNESS SHALL BE 4".
3. ALL MANHOLE SECTIONS SHALL BE TONGUE AND GROOVED.
4. JOINTS SHALL BE GROUT FILLED WITH A 3-CORNER SPACING OF 10" O.C.
5. INVERT SHALL BE FORMED TO PROVIDE SMOOTH FLOW.
6. INVERT AND CROWN PIPES MUST BE AT MINIMUM ELEVATION WITH UPSTREAM CROWN OF MANHOLE MANUFACTURER.
7. MANHOLES MUST BE CONSTRUCTED CONCENTRIC OF TOTAL DEPTH OF 4'-0" OR LESS.
8. CONCENTRIC TYPE, MUST A DEPTH OF 7.25 OF PIPE CHANNEL OF 8" SLOPE ON BOTTOM - ALL DIRECTIONS.
9. MIN. 18" BASIN OF BOTTOM PROVIDE.
10. SPIKE RUNG, AS MADE SHAPED BEND UNCOILED SHAPE.
11. FLOW TURNING MANHOLE SHALL NOT CHANGE DIRECTION AT ANGLES LESS THAN 90.
12. BOTTOM OF MANHOLE WALL BE AT LEAST 12" BELOW PIPE.
13. MANHOLE TOP SHALL BE 1" BELOW THE FINISHED GRADE IN LAWN AREAS, 1/2" BELOW FINISHED GRADE IN PAVED AREAS AND 2" ABOVE FINISHED GRADE IN FIELD AREAS AND 7" ABOVE GRADE IN FLOOD AREAS.
14. DROP MANHOLE SHALL BE USED WHEN DIFFERENCE BETWEEN INVERT IS 2' OR GREATER



TYPICAL PRECAST MANHOLE DETAIL
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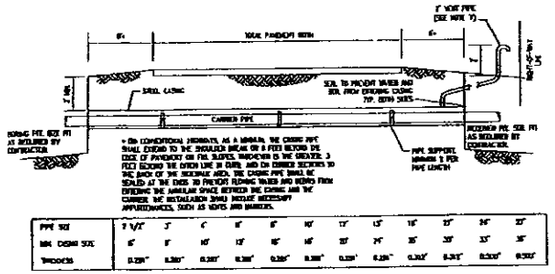
ENGINEER'S STAMP

NO.	DATE	DESCRIPTION	BY:
A	7/2/01	RELEASED FOR REVIEW	APTW
B	7/11/2018	REVISED FOR DOT	APTW
C		NOT RELEASED FOR DOT REVIEW	APTW
D	8/13/2018	RELEASED FOR HART COUNTY REVIEW	APTW

CLIENT: Hart County
PROJECT: Hart County Road Widening
STREET TITLE: Miscellaneous Details

SHEET NO. 16 OF 17
FILE NO. 405.13.1

3 DAYS BEFORE DIGGING IN GEORGIA
CALL 1-800-282-7411



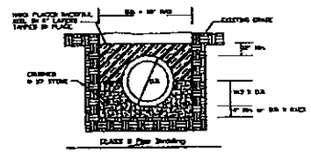
PIPE SIZE	2 1/2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	24"	30"
MIN. CASING SIZE	8"	8"	10"	12"	16"	18"	20"	24"	30"	30"	36"	36"
THICKNESS	0.220"	0.220"	0.220"	0.280"	0.280"	0.280"	0.280"	0.280"	0.312"	0.312"	0.500"	0.500"

NOTES

1. ALL PIPE UNDER STATE, COUNTY OR STATE HIGHWAYS, RAILROADS, PIPELINES AND OTHER PUBLIC OR PRIVATE RIGHTS-OF-WAY SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIRED DEPARTMENT, RAILROAD OR AGENCY HAVING JURISDICTION, OWNERSHIP OR CONTROL AUTHORITY. THE CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH THE NECESSARY CONTRACTED PERMITS OR AGREEMENTS ON FILED AND RIGHTS-OF-WAY.
2. CONTRACTOR TO FIELD VERIFY ROAD WIDTHS, BORE LENGTHS, & LOCATIONS OF CONVERGING UTILITIES PRIOR TO BORING.
3. IF CROSSING UNITED COMPLICT WITH BORE PIT AREA, BORE PIT MAY NEED TO BE SHIFTED TO AVOID UTILITIES.
4. CARRIER PIPE TYPICALLY DUCTILE IRON WITH MECHANICAL RESTRAINED JOINTS OR APPROVED EQUAL.
5. FOR RAILROAD BORE CROSSING, THE MINIMUM LENGTH OF CASING IS 100 FT. PERPENDICULAR FROM THE CENTER OF THE TRACK TO THE END OF BORE CASING EITHER SIDE OF THE CENTER.
6. FOR HIGHWAY BORE CROSSING, A MINIMUM OF 3' CLEARANCE SHALL BE MAINTAINED FROM THE BOTTOM OF ROADWAY TRACK TO THE TOP OF THE BORE CASING
7. 2" VENT PIPE IS FOR HIGHWAY BORES ONLY.

JACK AND BORE DETAIL FOR DOT

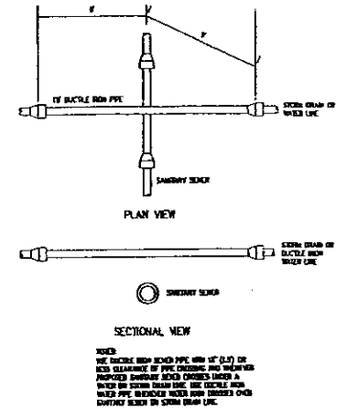
NOT TO SCALE



1. [illegible]
2. [illegible]
3. [illegible]

STANDARD PIPE IN TRENCH SECTION

NOT TO SCALE



NOTES

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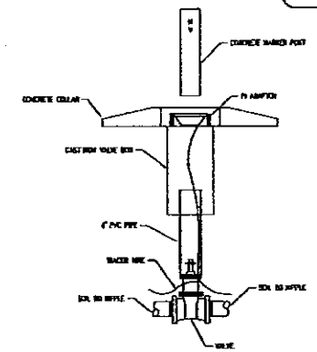
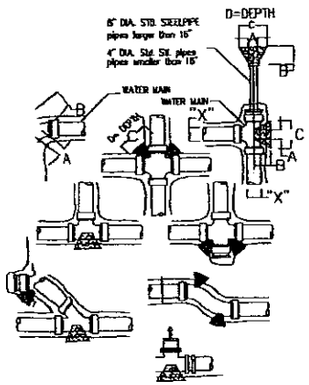
PIPE CROSSING DETAIL

NOT TO SCALE



VALVE ASSEMBLY DETAIL

NOT TO SCALE



Tees & Dead Ends				
Z	A	B	C	D
6"	8"	8"	10"	10"
8"	8"	10"	16"	16"
8"	9"	12"	20"	20"
10"	11"	16"	20"	20"
12"	12"	1'10"	3'0"	3'0"

NOTE

1. Note: 1500 psi test pressure soil bearing of 2000 P.S.F.
2. 3000 P.S.I. concrete

All C and D's have a minimum of 1'-0"

3. No blocking required for 2" pipe

Blocking Dimensions

Bends					
	X	A	B	C	D
90	4"	6"	8"	1'2"	1'2"
	6"	8"	1'2"	1'10"	1'10"
	8"	8"	1'6"	2'0"	2'0"
	10"	11"	1'10"	3'0"	3'0"
	12"	12"	2'2"	3'6"	3'6"
45	4"	8"	8"	1'0"	1'0"
	6"	8"	8"	1'4"	1'4"
	8"	8"	1'0"	1'10"	1'10"
	10"	11"	1'2"	2'2"	2'2"
	12"	12"	1'6"	2'6"	2'6"
22 1/2	4"	8"	8"	1'0"	1'0"
	6"	8"	8"	1'0"	1'0"
	8"	8"	8"	1'4"	1'4"
	10"	11"	8"	1'8"	1'8"
	12"	12"	10"	1'10"	1'10"
11 1/4	4"	8"	8"	1'0"	1'0"
	6"	8"	8"	1'0"	1'0"
	8"	8"	8"	1'0"	1'0"
	10"	11"	8"	1'2"	1'2"
	12"	12"	8"	1'4"	1'4"

THRUST BLOCK SIZE CALCULATION

STEP 1. ADD 50 LBS. FOR PRESSURE TESTING TO THE MAXIMUM RATING OF THE PIPE. MULTIPLY THIS FIGURE BY THE APPROPRIATE VALUE SHOWN IN THE FOLLOWING TABLE

THRUST PER POUND OF WATER PRESSURE AT VARIOUS FITTINGS

PIPE SIZE	DEAD END OR TEE	90° ELBOW	45° ELBOW	22 1/2° ELBOW
4	18	26	14	7
6	37	53	29	15
8	64	91	49	25
10	97	137	74	38
12	137	194	105	53
14	184	260	142	72
16	238	336	182	93

STEP 2. DETERMINE BEARING STRENGTH OF THE SOIL FROM THE FOLLOWING TABLE

BEARING STRENGTH OF SOILS

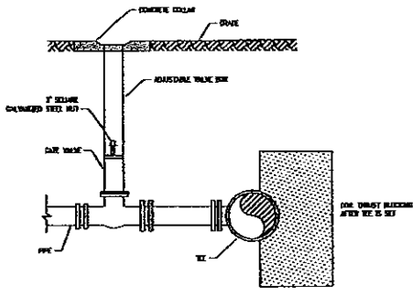
* SOILS AND SAFE BEARING LOADS	LBS/SQ. FT.
SOUND SHALE	10000
CEMENTED GRAVEL AND SAND	4000
DIFFICULT TO PICK	
COARSE AND FINE COMPACT SAND	3000
MEDIUM CLAY CAN BE SPADED	2000
SOFT CLAY	1000
MUCK	0

* SEE ENGINEER FOR CLASSIFICATION OF SOILS

STEP 3. DIVIDE THE TOTAL THRUST OBTAINED IN STEP 1 BY THE BEARING STRENGTH OF THE SOIL (STEP 2) TO DETERMINE THE SQUARE FOOTAGE OF THRUST BLOCK AREA REQUIRED

THRUST BLOCK DETAILS

NOT TO SCALE



TEE & GATE VALVE DETAIL

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ENGINEER'S STAMP

NO.	DATE	DESCRIPTION	BY:
A	10/01	RELEASE FOR REVIEW	AWW
B	11/08	REVISED FOR DOT	AWW
C	12/08	RELEASE FOR DOT REVIEW	AWW
D	01/09	RELEASE FOR HART COUNTY REVIEW	AWW

CLIENT: Hart County
PROJECT: Hart County Road Widening
SHEET TITLE: Water Details

SHEET NO. 17 OF 17
FILE NO. 405.13.1